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# DURUM WHEAT



## QUALITY REPORT

Physical, Chemical, Milling, and Macaroni Characteristics

**1973 & 1974 CROPS**

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
NORTH CENTRAL REGION

and  
NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION  
DEPARTMENT OF CEREAL CHEMISTRY & TECHNOLOGY



UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
in cooperation with  
STATE AGRICULTURAL EXPERIMENT STATIONS

QUALITY EVALUATION OF DURUM WHEAT VARIETIES

1973 and 1974 CROPS<sup>1/</sup>

by

W. C. Shuey, Research Leader; C. A. Watson, Research Chemist; J. W. Dick, Food Technologist; R. D. Crawford and R. D. Maneval, Technicians, North Central Region, Agricultural Research Service; and L. D. Sibbitt, B. J. Donnelly, M. Johnson, and S. Vasiljevic, Department of Cereal Chemistry and Technology, North Dakota Agricultural Experiment Station.

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<sup>1/</sup> This is a progress report of cooperative investigations containing some results that have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for use of cooperators and their official staffs and to those persons having direct and special interest in the development of agricultural research programs.

This report was compiled by the Agricultural Research Service, U.S. Department of Agriculture. Special acknowledgment is made to the North Dakota State University for their facilities and services provided in support of these studies. The report is not intended for publication and should not be referred to in literature citations or quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

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Hard Red Spring and Durum Wheat Quality Laboratory  
Fargo, North Dakota





## COOPERATING AGENCIES, STATIONS, AND PERSONNEL

The cooperating agencies, stations, and personnel conducting the varietal plot and nursery experiments concerned with these durum tests in 1973 and 1974 were as follows:

### California Agricultural Experiment Station:

Delta, Imperial Valley, and Tulelake: W. F. Lehman,  
Y. P. Puri, and C. O. Qualset

### Idaho Agricultural Experiment Station:

Aberdeen: D. W. Sunderman

### Minnesota Agricultural Experiment Station:

Crookston and Morris: R. E. Heiner\*, L. S. Smith,  
and D. D. Warnes

### Montana Agricultural Experiment Station:

Havre and Sidney: F. H. McNeal\*, M. A. Berg\*,  
R. T. Harada, and G. P. Hartman

### North Dakota Agricultural Experiment Station:

Carrington, Dickinson, and Williston: T. J. Conlon,  
E. French, L. Joppa\*, R. Nowatzki, H. Olson, and  
J. Quick.

### Oregon Agricultural Experiment Station:

Pendleton: W. H. Foote, J. T. McDermid, and C. R. Rohde

### South Dakota Agricultural Experiment Station:

Bison, Brookings, Brown County, Deuel County, Marshall  
County, Newell, Redfield, Roberts County, Selby, and  
Sully County: J. J. Bonnemann, R. W. Pylman, and  
W. D. Stegmeier

### Washington State University:

Pullman and Royal Slope: C. F. Konzak, M. A. Davis,  
and E. Donaldson

\* ARS Employees





## INTRODUCTION

This, the Twelfth Durum Wheat Quality Report, is for the 1973 and 1974 crops. Samples of standard varieties and new strains of durum wheat grown in cooperative experiments in the durum wheat region of the United States<sup>2/</sup> were milled and evaluated by the Hard Red Spring and Durum Wheat Quality Laboratory in cooperation with the Department of Cereal Chemistry and Technology on the campus of North Dakota State University at Fargo, North Dakota. The evaluation of some of the durum wheats is integrated with the work done by the Department of Cereal Chemistry and Technology of North Dakota State University. Methods and techniques are described in detail in the text of the report.

Where sufficient quantity of sample was available for macro processing, the semolina was processed into spaghetti to determine the quality characteristics. When the quantity of semolina was insufficient (micro quantity), only the dry slick test was employed.

The purpose of this report is to make available to cooperators the quality data on standard varieties and new strains of durum wheat from the 1973 and 1974 crops.

The relatively new procedures adopted in this report are more fully described under the Milling, Color Score, Dry Slick Color Score, Spaghetti Processing, and Tenderness Score in the Methods Section. A statistical study of the results, comparing the dry slick method and other established evaluation methods was given in the section of Statistical Study of the Dry Slick Color Score in the 1963 report (CR-59-64). The same method as for the 1972 crop was used to grind the 1973 crop samples, by using a Buhler<sup>3/</sup> experimental mill and two Miag<sup>3/</sup> laboratory purifiers to process the macro samples of durum wheat. A new flow was developed for both mills for use with the 1974 crop samples. Schematic diagrams are included to present the new mill flows.

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<sup>2/</sup> Heiner, R. E., Elsayed, F. A., and Quick, J. S. Wheat varieties grown in cooperative plot and nursery experiments in the spring wheat region in 1973 and 1974. Agricultural Research Service, U.S. Department of Agriculture.

<sup>3/</sup> Mention of a trademark name or proprietary product does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture, and does not imply its approval to the exclusion of other products that may also be suitable.



## SOURCE OF THE 1973 CROP SAMPLES

Six hundred and twenty-one samples were received from 18 stations in 7 states--California, Idaho, Minnesota, Montana, North Dakota, South Dakota, and Washington--for durum wheat quality tests. Approximately 20% of the samples tested were the named commercial varieties of Bottineau, Crosby, Hercules, Lakota, Leeds, Rolette, Rugby, Sentry, Wakooma, Wandell, Ward, Wascana, and Wells. The remaining samples were either new varieties or samples received from a special test for quality evaluation.

One hundred and ninety-four Advanced Yield Nursery samples were received: 100 from 1 station in California (Tulelake); 12 from 1 station in Idaho (Aberdeen); 26 from 1 station in Oregon (Pendleton); 27 from 6 stations in South Dakota (Brookings, Brown County, Deuel County, Marshall County, Roberts County, and Sully County); and 29 from 2 stations in Washington (Pullman and Royal Slope).

Seventy-one Field Plot Nursery samples were received from the Tulelake, California station.

Twenty-five International Yield Nursery samples were received from the Pullman, Washington station.

Sixty-five Preliminary Yield Nursery samples were received from the Imperial Valley, California station.

Twenty-two Special Nursery samples were received from Tulelake, California and Pullman, Washington.

Two hundred and forty-four samples were Uniform Regional Nursery samples grown at the Crookston and Morris, Minnesota stations; Sidney, Montana station; Dickinson and Williston, North Dakota stations; Redfield, South Dakota station; and the Pullman, Washington station.

The durum wheats which are included in the Uniform Regional Nursery 1973 trials are listed on page 6. The cross or variety, the C.I. number or state selection number, and the station which developed the variety are given.



## SOURCE OF THE 1974 CROP SAMPLES

Four hundred and sixty-seven samples were received from 14 stations in 7 states--California, Minnesota, Montana, North Dakota, Oregon, South Dakota, and Washington--for durum wheat quality tests. Approximately 25% of the samples tested were the named commercial varieties of Botno, Crosby, Hercules, Lakota, Leeds, Macoun, Mindum, Rolette, Rugby, Wakooma, Wandell, Ward, Wascana, and Wells. The remaining varieties were either new varieties or samples received from a special test for quality evaluation.

Fifty Advanced Yield Nursery samples were received: 6 from 1 station in Oregon (Pendleton); 9 from 1 station in South Dakota (Bison); and 35 from 1 station in Washington (Royal Slope).

Forty-nine Field Plot Nursery samples were received: 30 from 2 stations in California (Delta and Imperial Valley); and 19 from 1 station in North Dakota (Williston).

Twenty-four International Yield Nursery samples were received from the Royal Slope, Washington station.

One hundred and thirty-three Preliminary Yield Nursery samples were received: 72 from 1 station in California (Delta); and 61 from 1 station in Washington (Royal Slope).

Two Special Nursery samples were received from the Pullman, Washington station.

Two hundred and nine samples were Uniform Regional Nursery samples grown at the Crookston and Morris, Minnesota stations; Havre and Sidney, Montana stations; Dickinson and Williston, North Dakota stations; Newell and Selby, South Dakota stations; and the Royal Slope, Washington station.

The durum wheats which are included in the Uniform Regional Nursery 1974 trials are listed on page 7. The cross or variety, the C.I. number or state selection number, and the station which developed the variety are given.





1973 CROP UNIFORM REGIONAL DURUM NURSERY

Entry No.	Cross or Variety	C.I. or Sel. No.	Year Entered	Origin
1	MINDUM	5296	1929	Minnesota
2	WELLS	13333	1957	ND-USDA
3	LEEDS	13768	1963	"
4	HERCULES	14559	1966	Manitoba
5	WASCANA	15280	1968	Saskatchewan
6	ROLETTE	15326	"	ND-USDA
7	WARD	15892	1969	"
8	WAKOOMA	DT316	1968	Saskatchewan
9	D6715 (CROSBY)	17282	1970	ND-USDA
10	D6721 (BOTNO)	17283	1970	"
11	D6722 (RUGBY)	17284	1970	"
12	RL3607/DT182	DT332	1972	Saskatchewan
13	Lds//61130/Lds	D6962*	"	North Dakota
14	65150/65151	D6973+	"	" "
15	61130/Lds//6148	D7057*	"	" "
16	Lds/Hc	D7067	"	" "
17	62220/57114//Lds	D7075+	"	" "
18	R1t/6645	D70101	"	" "
19	61130/Lds//Lds	D7019*	1973	" "
20	6468//61130/Lds	D7025*	"	" "
21	Lds//61130/Lds	D7047*	"	" "
22	R1t/6645	D7099*	"	" "
23	6580/Ward	D71110	"	" "
24	Ward/6714	D71117	"	" "

\* Semidwarfs

+ Medium height





1974 CROP UNIFORM REGIONAL DURUM NURSERY

Entry No.	Cross or Variety	C.I. or Sel. No.	Year Entered	Origin
1	MINDUM	5296	1929	Minnesota
2	WELLS	13333	1957	ND-USDA
3	LEEDS	13768	1963	"
4	ROLETTE	15326	1968	"
5	WARD	15892	1969	"
6	WAKOOMA	DT316	1968	Saskatchewan
7	CROSBY	17282	1970	ND-USDA
8	BOTNO	17283	"	"
9	RUGBY	17284	"	"
10	MACOUN	DT332	1972	Saskatchewan
11	Lds//61130/Lds	D6962*	"	North Dakota
12	61130/Lds//6148	D7057*	"	" "
13	R1t/6645	D70101	"	" "
14	6468//61130/Lds	D7025*	1973	" "
15	Lds//61130/Lds	D7047*	"	" "
16	6580/Ward	D71110	"	" "
17	Ward/6714	D71117	"	" "
18	561/Ldn//6676	D7150	1974	" "
19	R1t/6691	D7171*	"	" "
20	6645/65114	D7176*	"	" "
21	6580/Ward	D71111	"	" "
22	DT188/DT224//DT182	DT411	"	Manitoba
23	**Lds//W1s/PI274678	D7131	"	North Dakota
24	**6568/6148	D7158*	"	" "
25	**R1t/6645	D7169*	"	" "
26	**6530/64114	D7175	"	" "

\* Semidwarfs

\*\* Grown only at ND stations



## METHODS

The methods used in the testing of the samples were essentially the same as given in the last report, with the addition of some new tests and interpretations of the tests, as well as deletions.

Briefly, the following methods and terminologies were applied:

Test Weight Per Bushel (TW) - The weight per Winchester bushel of dockage-free wheat.

Thousand Kernel Weight (KW) - The 1000 kernel weight was determined by counting the number of kernels in a 10 g sample of cleaned, picked wheat on an Asco Seed Counter<sup>3/</sup>.

Kernel Size - The percentage of the size of the kernels (large (LG), medium (MD), and small (SM)) was determined on a wheat sizer as described by Shuey<sup>4/</sup>.

The sieves of the sizer were clothed as follows:

Top Sieve	-	Tyler # 7 with 2.92 mm opening
Middle Sieve	-	Tyler # 9 with 2.24 mm opening
Bottom Sieve	-	Tyler #12 with 1.65 mm opening

Milling - The samples were cleaned by passing the wheat over an Emerson Kicker and Dockage Tester<sup>3/</sup> and through a modified Forster Scourer Model 6 <sup>3/</sup>. The clean, dry samples were pretempered to 12.5% for at least 72 hours prior to any additional tempering before milling.

The 1973 field plot and large advanced yield nursery samples were milled on a Buhler<sup>3/</sup> experimental mill specially designed for milling durum wheat. The mill is equipped with corrugated rolls throughout and the semolina purified on a Miag<sup>3/</sup> laboratory purifier. All of the stock is handled pneumatically. A flow diagram for the mill is shown on Page 14. A modified mill flow (page 15) was used for the 1974 crop samples. The clean, dry wheat was tempered in three stages: first to 12.5% moisture at least 72 hours prior to the second stage which is to add an additional 2.0% for 18 hours to give a cumulative moisture of 14.5%, then a final temper of 3.0%, 45 minutes prior to milling.

The small samples were milled on a modified Brabender Quadrumat Jr.<sup>3/</sup> mill. The #2 roll with 26 corrugations per inch is replaced with #1 roll with 13 corrugations per inch. The #3 and #4 rolls are

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<sup>4/</sup> Shuey, William C. A wheat sizing technique for predicting flour milling yield. Cereal Sci. Today 5: 71-72,75 (1960).



replaced with #2 rolls. The pretempered wheat is tempered overnight to 15.5% moisture content before milling. The ground meal is sifted for seven seconds on a Roto-matic<sup>3/</sup> sifter equipped with 30 W and 100 W sieves. The overs of the 30 W is bran, the thrus of the 100 W is flour, and the middle cut-over 100 W and thru 30 W is the unpurified semolina. The purified semolina is obtained by introducing unpurified semolina into Purifier #1 of the Buhler<sup>3/</sup> Mill flow (page 16), but the tailings for Purifier #1 are not recycled. A modified milling system (page 17) was utilized for the 1974 crop small samples<sup>5/</sup>. The purified semolina is used in testing the quality of semolina. The semolina extraction (SEEX) was calculated on a total products basis.

Protein Content (PR) - The protein was calculated by multiplying by the factor of 5.7, the percent nitrogen, as determined by the standard Kjeldahl procedure.

Mineral Content or Ash Content - This was determined by measuring the residue of the minerals left after incinerating the sample for approximately 16 hours at 600°C. The results were reported as percentage of the sample which was incinerated.

Absorption - This was the water, expressed as percent of the semolina, required to bring the dough to the proper consistency.

All values (protein, ash, absorption) are reported on a 14% moisture basis.

MACRO Spaghetti Processing - Spaghetti was processed on a semi-commercial scale pasta extruder (DEMACO)<sup>3/</sup>. The control as well as sprouted durum was processed with the following extruding conditions:

Temperature . . . .	49.5°C
Rate. . . . .	12 rpm
Absorption. . . . .	30%
Vacuum. . . . .	18 in Hg

These were the optimum conditions for processing spaghetti, which were calculated by the linear programming technique.

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<sup>5/</sup> Vasiljevic, S., Banasik, O. J., and Shuey, W. C. A micro unit for producing durum semolina. (In press - Cereal Chem.)





To process the pasta, 1000 g batch<sup>6/</sup> was premixed by slowly adding the water and mixing at slow speed for approximately 30 seconds, and high speed for 10 seconds, then add the remainder of the water at slow speed in a Hobart C-100-T<sup>3/</sup> mixer equipped with a pastry knife agitator. After all of the water has been added, the semolina and water are blended at high speed for 30 seconds; the mixer was stopped to scrape down the sides of the bowl and the blending continued for 90 seconds more to complete the premix stage. The premixed pasta was then transferred to the vacuum mixer of the press and extruded through an 84-strand 0.043 in teflon spaghetti die. A jacketed extension tube (9¼" long x 1-3/4" inside diameter) was attached to the semicommercial pasta extruder to allow more time for hydration of the semolina and minimize the number of white specks (unhydrated semolina) in the spaghetti. Extrusion temperature was controlled by a circulating water bath.

MICRO Spaghetti Processing - Thirty grams of semolina were mixed with water to form a stiff dough, pressed into spaghetti and dried. The equipment and procedure have been described by Harris and Sibbitt<sup>7/</sup> and Fifield<sup>8/</sup>.

Spaghetti Drying - Spaghetti was dried in an experimental pasta dryer for an 18 hr cycle as described by Gilles, Sibbitt, and Shuey<sup>9/</sup>. During the drying period, the humidity of the dryer was decreased linearly from 95 to 60% R.H. and the temperature was held constant at 100°F.

Color Score - The color of the spaghetti or semolina has been generally accepted as the most important single grading factor. A deep amber or golden color is the most preferable. The amount of yellow pigmentation determines the extent or degree of amber-ness.

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6/ Weight was determined as follows:

$$\left[ \frac{100-m_1}{100-m_2} - 1 \right] \left( W - W (m_2-m_1) \right) = \text{Amount } H_2O \text{ added}$$

where:

$m_1$  = original moisture  
 $m_2$  = desired moisture  
 $W$  = desired amount of sample

7/ Harris, R. H., and Sibbitt, L. D. Experimental durum milling and processing equipment with further quality studies on North Dakota durum wheats. Cereal Chem. 19: 388-402 (1942).

8/ Fifield, C. C. Experimental equipment for manufacture of alimentary pastes. Cereal Chem. 11: 330-334 (1934).

9/ Gilles, K. A., Sibbitt, L. D., and Shuey, W. C. Automatic laboratory dryer for macaroni products. Cereal Sci. Today 11: 322-324 (1966).



Samples which have a color rating 1.5 points below the standard spaghetti score or 9 points below the standard slick color score are unsatisfactory. It is possible that the average color score for a crop year may be higher or lower than average, therefore, this would be taken into consideration when giving the overall rating of a variety over a number of years. A sample may receive a low rating for reasons other than a deficiency of yellow pigmentation such as: D - Dullness; G - Grayness; R - Redness; B - Branny; W - White Cast or Chalkiness; and S - Speckiness, or a combination of these factors. The sample will be rated accordingly with the exception of the intensity, quantity, and depth of the yellow pigmentation.

The following grading system has been adopted for scoring the color of spaghetti and semolina relative to the standard color score:

<u>COLOR SCORE</u>		
<u>Spaghetti</u>	<u>Dry Slick</u>	<u>Description</u>
1.5 above	9 above	Much deeper and intense yellow pigmentation than standard
1.0 above	6 above	Deeper and more intense yellow pigmentation than standard
0.5 above	3 above	Slightly deeper and more intense yellow pigmentation than standard
Equal to Standard	Equal to Standard	Standard quality, depth and intensity of yellow pigmentation
0.5 below	3 below	Slightly less depth and intensity, but sufficient quantity of pigmentation
1.0 below	6 below	Slightly less quantity as well as depth and intensity of pigmentation than the standard, but still sufficient to be rated satisfactory on the basis of color
1.5 below	9 below	Sufficiently less quantity of yellow pigmentation than the standard to give a pale yellow color and graded unsatisfactory for color score.

The numerical rating describes the depth or amount of pigmentation. In cases where a sample is graded down because of off-color, speckiness, etc., the designation is shown by a letter abbreviation following the numerical score. For example, 60-W would indicate



the sample was chalky white with little or no yellow pigmentation; 80-D would indicate that the sample had some yellow pigmentation, but was dull.

Dry Slick Color Score (DU) - This is determined by slicking the sample with a standard of known color rating and comparing the two.

Spaghetti Color (SP) - The spaghetti color scores were determined on a Model D25 Hunter Color Difference Meter<sup>3/</sup> equipped with a D25A optical unit. The specimen area (2 in diameter) was covered with straight spaghetti strands and readings were taken against a black background with 0% reflectance. Color difference values (L%, a%, and b%) were measured for all the spaghetti samples by the method of Walsh, Gilles, and Shuey<sup>10/</sup>. A uniform chromaticity chart was used for determining spaghetti color scores.

#### Cooking Characteristics of Spaghetti -

##### a. Cooking Procedure

A modification of the method of Sheu et al.<sup>11/</sup> was adopted to determine cooking quality of spaghetti used in this study. Spaghetti (10 g) which had been broken into lengths of approximately 5 cm, was placed into 300 ml of boiling 1% NaCl salt solution in a 500 ml beaker. After 20 minutes cooking, the samples were washed thoroughly with distilled water in a Buchner funnel, allowed to drain for 2 minutes, and then weighed to determine cooked weight. The cooking water as well as the washing solution was collected in pre-weighed 250 ml beakers and oven dried to determine the cooked spaghetti residue (RE).

##### b. Firmness Score (FR)

Four strands of cooked spaghetti were placed on a plexiglass plate and sheared at a 90° angle with a special plexiglass tooth. A continuous recording of distance versus force was made by the instrument during the operation. An automatic integrator was used to calculate the area under the curve (g cm) which was the amount of work required to shear the cooked spaghetti. To measure firmness, the average of two integrator scores was used, and the average work to shear was used as a measure of spaghetti firmness. The firmness score was read directly from the integrator value.

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<sup>10/</sup> Walsh, D. E., Gilles, K. A., and Shuey, W. C. Color determination of spaghetti by the tristimulus method. Cereal Chem. 46: 7-14 (1969).

<sup>11/</sup> Sheu, Ruey-yi, Medcalf, D. G., Gilles, K. A., and Sibbitt, L. D. Effect of biochemical constituents on macaroni quality. I. Differences between hard red spring and durum wheats. J. Sci. Fd. Agr. 18: 237-239 (1967).





The higher the value, the firmer the spaghetti. A value of approximately 5 appears to be of preference.

Calculations were as follows:

$$E = 0.0199 \times A \text{ (g cm)}$$

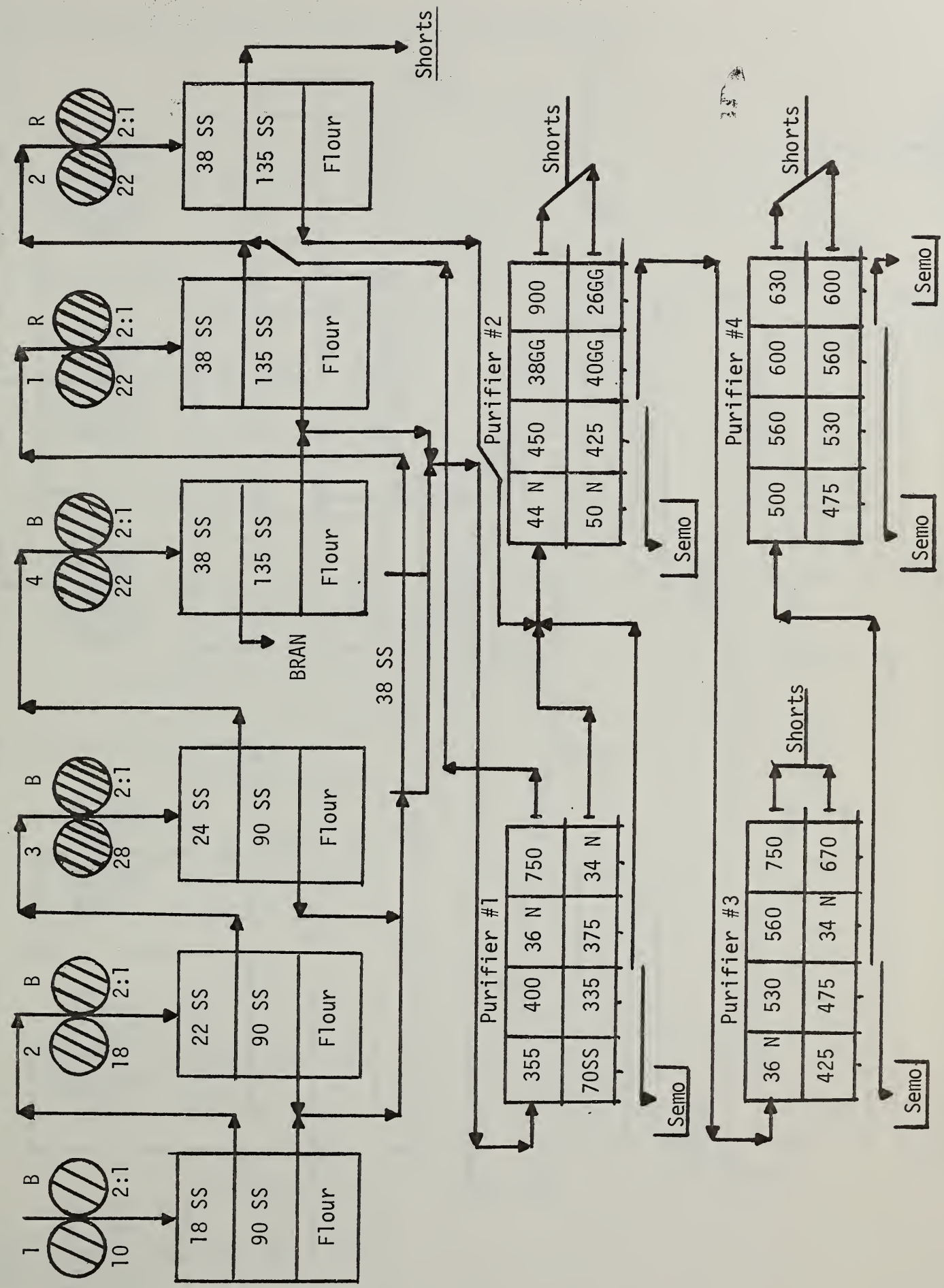
A = Average integrator reading

E = Area of curve in g cm





TEMPERED  
WHEAT



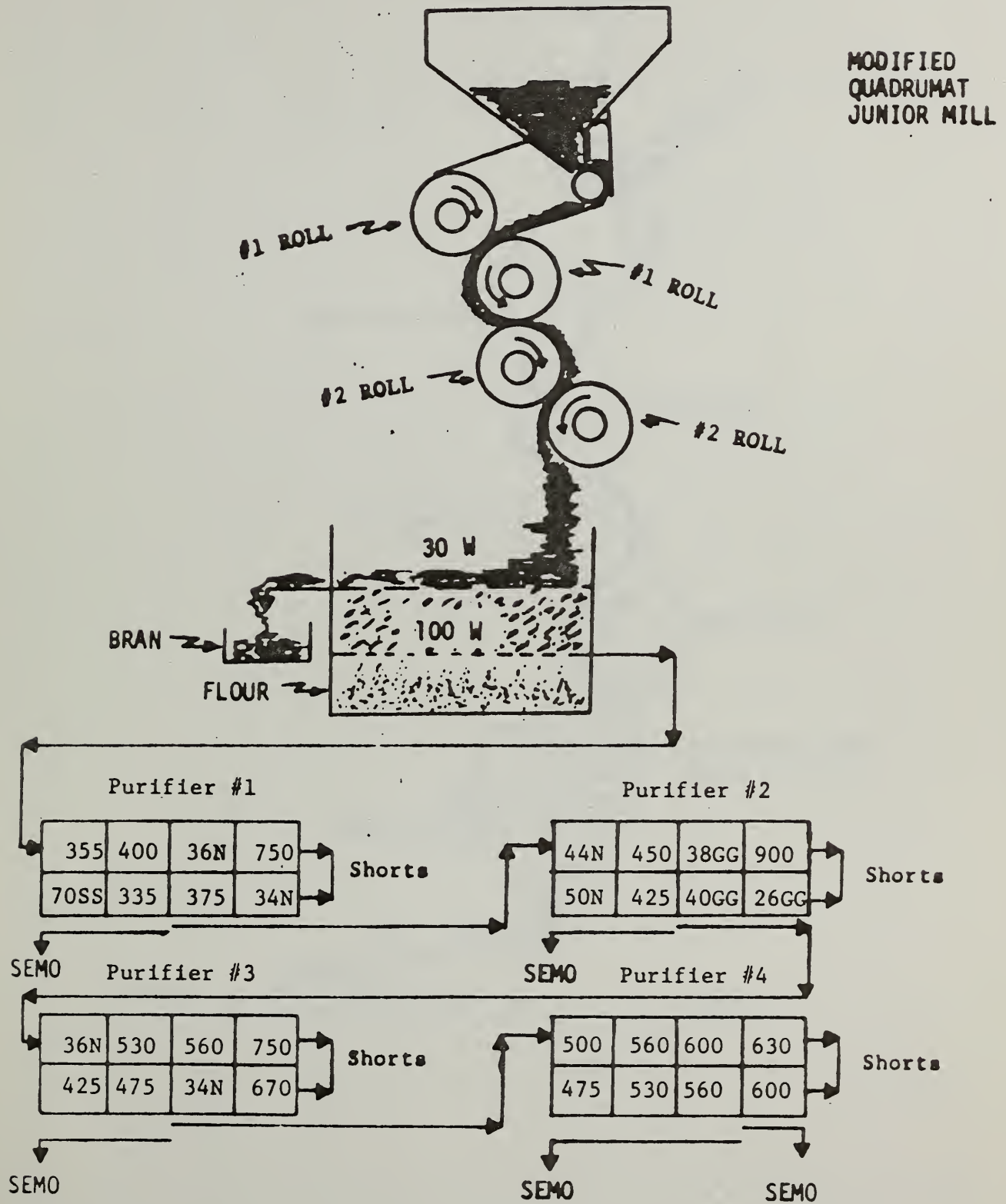








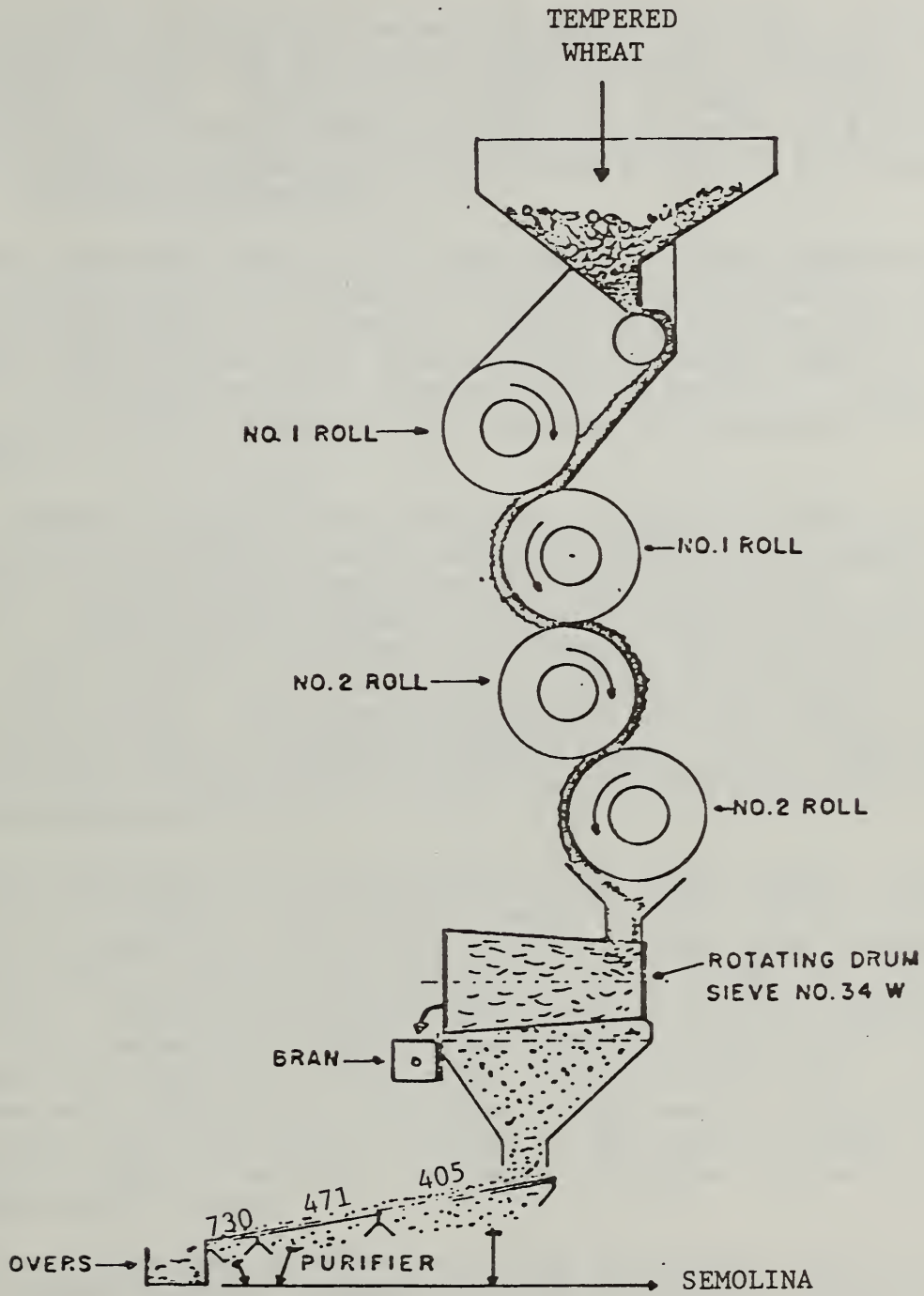
FLOW DIAGRAM FOR SMALL DURUM WHEAT SAMPLES - 1973 CROP







FLOW DIAGRAM FOR SMALL DURUM WHEAT SAMPLES





## DISCUSSION

The following discussion represents some of the basic techniques and criteria used in the milling and cooking quality evaluation of durum wheat samples. Several testing factors are used to determine the overall quality characteristics or final evaluation of a particular sample including in general the kernel characteristics, milling performance, and cooking performance.

Each evaluation factor can be important. A sample could be of a sufficiently poor quality for a given factor to eliminate it from possible future testing. However, a sample submitted for the first time and found to show little promise should be tested again to establish if it has some or good promise, or no promise. A sample which is consistently rated as little promise or no promise should be discarded.

A computer program<sup>12/</sup> for evaluating milling and cooking quality was developed from 923 previously evaluated durum nursery samples. The samples represented 5 crop years, 7 states, 25 stations, and 92 series. Leeds was the standard variety for most of the series. However, Leeds and Wells were used as standards when both were grown in a series. Means of the independent variables were computed for the standard varieties. The percent deviation of the test samples was determined from the corresponding standard means. Limits consistent with previous data obtained on the 923 samples were established for each independent variable.

Eight characteristics (test weight, 1000 kernel weight, percent large kernels, percent small kernels, wheat protein, percent semolina extraction, semolina dust color and spaghetti color) were independent variables used to calculate the dependent variable (VAL, the final evaluation). Correlations between the deviation of each independent variable and the dependent variable were computed and plots for each independent variable were constructed. Also, the differences between the means were subjected to a "Maximum  $R^2$  Improvement" technique to gain insight into the relative strength of the relation between the deviation of each of the eight independent variables and the VAL in the eight-variable model.

Three independent variables (auxiliary variables)--semolina bran specks, cooked spaghetti firmness, and cooked spaghetti residue--were not included in the original calculations because of an insufficient number of samples. However, they were included in the final evaluation equation if they were determined in the test sample. The eight-variable

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<sup>12/</sup> Dick, J. W., and Shuey, W. C. A computerized method for evaluating durum wheat quality. (In press - Cereal Chem.)



model was used as the basis to compute the correlations for the eight original independent variables and indicated their respective weighted contributions in past evaluations. The auxiliary variables were assigned arbitrary significance based on their past relative importance in determining pasta quality.

The total of 11 independent variables was selectively incorporated into weighted rating equations. Each of the 11 was rated by arbitrary faulting limits on a scale of 1 to 4, with 1 = "no promise"; 2 = "little promise"; 3 = "some promise"; and 4 = "good promise." The rating corresponded to the final evaluation. For all but the testing factor, wheat protein, absolute limits were established which automatically rated the final evaluation as 1 or no promise. If there was not an automatic rating of 1, the weighted means of the independent variables in the respective weighting equations were used to derive the final evaluation.

Because of the large number of durum samples we have received in recent years and the small size of some of the durum samples we receive, it has become prohibitive to perform all the evaluation tests on each sample. Such limitations prompted the formulation of 12 separate weighting equations each representing a different combination of variables for the final evaluation of the sample. By utilizing these 12 equations, anywhere from 7 to 11 variables in various combinations can be evaluated.

All samples, as in previous years, are compared to a composite standard that represents a blend of the crop year blended to a known quality. However, the samples for the individual stations are evaluated against the average results of the check varieties from the respective stations.

The Final Evaluation (VAL) rating applies only to the data contained in the year of the report. The main defects and outstanding features are discussed. A selection which is promising as a new variety should be continued. A sample which shows little or no promise should be discontinued.





## 1973 and 1974 CROP EXPERIMENTAL RESULTS

The results obtained for the 1973 crop of durum wheat samples are tabulated and presented in the following order: Tables 1-8, Advanced Yield Nursery Samples; Tables 9-11, Field Plot Nursery Samples; Table 12, International Yield Nursery Samples; Tables 13-15, Preliminary Yield Nursery Samples; Tables 16-17, Special Nursery Samples; and Tables 18-27, Uniform Regional Nursery Samples.

The results obtained for the 1974 crop samples are presented in the following order: Tables 28-31, Advanced Yield Nursery Samples; Tables 32-36, Field Plot Nursery Samples; Tables 37-38, International Yield Nursery Samples; Tables 39-44, Preliminary Yield Nursery Samples; Table 45, Special Nursery Samples; and Tables 46-54 - Uniform Regional Nursery Samples.

None of the samples tested showed signs of sprout damage, although some samples did exhibit weathering, blackpoint or green kernels. The data for the Durum Standard are comparable to the respective North Dakota 1973 or 1974 durum crop average and may be used for comparing samples grown in nurseries in different areas and environmental conditions to the bulk of the U.S. durum crop.

Only a limited number of randomly selected samples were processed into spaghetti, except the large macro samples or those in which plant breeders had an interest in evaluating. The limited number of samples processed into spaghetti was based on the results of two studies which were conducted on the durum samples:

1. A study involving over 400 samples from two crop years has indicated that the dust color score can reasonably predict the spaghetti color score within a half a point which is within the range of duplication. A correlation coefficient of 0.8 was found between the dust color score and the spaghetti color score.

2. The lipoxidase activity of the present varieties and selections is sufficiently low and does not adversely effect the color when processing the semolina into spaghetti.

## 1973 CROP ADVANCED YIELD NURSERY SAMPLES

California (Tables 1-3). One hundred advanced yield nursery samples were received from the Tulelake, California station. Two of these samples were the named varieties, Leeds and Sentry. All selections showed either some promise or good promise as new varieties except Nos. 16, 34, 61, 89, 136, 137, 141, 1345, 1377, 1458, 1487, and 1491 which showed no promise, and No. 125 with little promise. The most common deficiencies were semolina dust color and semolina extraction.



Idaho (Table 4). Twelve advanced yield nursery samples were received from the Aberdeen, Idaho station. All selections showed either some promise or good promise. Minor deficiencies were noted for semolina dust color in some samples.

Oregon (Table 5). Twenty-six advanced yield nursery samples were received from the Pendleton, Oregon station. Twenty samples were from the Oregon Western Advanced Irrigated Durum Nursery and six samples were from the Regular (Dryland) Advanced Yield Nursery. For the irrigated samples, six were the named varieties Albatross, Crane, Crane 'B', Jori 69, Rolette, and Wandell. Selections WA 006027, ID 0086, ND 65023, ND 66151, WA 006022, and WA 006026 showed some promise as new varieties but were usually deficient in either milling characteristics or color score. Selections WA 006028 and WA 006029 showed good promise as new varieties. For the dryland advanced yield nursery samples, four were the named varieties, Cocorit 71, Crane, Rolette, and Wandell. The two dryland selections MD 000136 and ND 65023 showed no promise as new varieties.

South Dakota (Table 6). Twenty-seven samples were received from six stations in South Dakota--Brookings, Brown County, Deuel County, Marshall County, Roberts County, and Sully County. The samples included the named varieties Hercules, Leeds, Rolette, Ward and Wells. All samples showed either some or good promise.

Washington (Tables 7 and 8). Twenty-nine samples were received from two stations in Washington--Pullman and Royal Slope. For the Pullman samples, one was the named variety, Wandell. The 11 selections from Pullman showed either some promise or good promise as new varieties. For the 17 samples received from the Royal Slope nursery, one was the named variety, Wandell. The 16 selections showed either some or good promise as new varieties except for selection T 7205092 which showed no promise.

#### 1973 CROP FIELD PLOT NURSERY SAMPLES

California (Tables 9 and 10). Fifty-four field plot nursery samples were received from the Tulalake, California station. Three of the samples were the named varieties Cocorit 71, Leeds, and Produra. Cocorit 71 and Produra showed no promise because of poor semolina dust color. The selections 348/30, 348/47, 348/49, 348/53, and 348/57 showed good promise as new varieties. Only the selection 348/108 showed no promise, while the remaining samples showed either little or some promise as new varieties. Lack of yellow color in the semolina was the predominant deficiency of the samples which were faulted.

North Dakota (Table 11). Seventeen field plot nursery samples were received from the Williston, North Dakota station. Seven of these samples were the named varieties, Hercules, Leeds, Rolette, Wakooma, Ward, Wascana, and Wells. Selections D 6721, D 6722, D 6962, D 7075, and D 70101 showed good promise as new varieties, while the remaining selections showed some promise.





### 1973 CROP INTERNATIONAL YIELD NURSERY SAMPLES

Washington (Table 12). Twenty-five international yield nursery samples were received from the Pullman, Washington station. One of these samples (Quilafen) showed good promise as a new variety. Capeiti, GAB 125, Ganso, Gerardo 574, Hercules, Inrat 69, Parana, D 6647, and JO"S"-CR"S" showed some promise, while the remaining samples showed little or no promise as new varieties, with the main faults for these samples being low test weight and poor color score.

### 1973 CROP PRELIMINARY YIELD NURSERY SAMPLES

California (Tables 13-15). Sixty-five preliminary yield nursery samples were received from the Tulelake, California station. When Leeds was used as the standard (Table 13, Series 1), 11 samples showed good promise as new varieties. These 11 samples included Selections No. 605, 624 (Quilafen), 822, 919, 968, 970, 974, 982, 985, 1002, and 1009. When the 1973 Standard blend was used as the standard (Table 13, Series 2; Tables 14 and 15) of quality, only Selection No. 605 showed good promise as a new variety. The samples in Series 1, which previously showed good promise were faulted because of poor semolina extraction.

### 1973 CROP SPECIAL YIELD NURSERY SAMPLES

California (Table 16). One sample was received from the Tulelake, California station. The sample (TLD 701) showed good promise as a new variety.

Washington (Table 17). Twenty-one samples were received from the Pullman, Washington station. These included the named variety Wandell. Selection P 70N5122 showed good promise as a new variety, while P 70N5048 and P 70N5094 showed no promise because of poor color scores. The remaining samples showed either little or some promise as new varieties.

### 1973 CROP UNIFORM REGIONAL NURSERY SAMPLES

Minnesota (Tables 18-20). Fifty samples were received from two stations in Minnesota--Crookston and Morris. Twelve of these samples were the named varieties Bottineau, Crosby, Hercules, Lakota, Leeds, Mindum, Rolette, Rugby, Wakooma, Ward, Wascana, and Wells. The samples were evaluated as individual stations as well as by a 50-50 blend of semolina from the Crookston and Morris stations. For the 50-50 blend evaluation, the wheat quality factors such as test weight, kernel weight, etc., were assigned the average value from the two stations for a given sample.





Montana (Tables 21-25). Twenty-four samples were received from the Sidney, Montana station. Eleven of these samples were the named varieties Bottineau, Crosby, Hercules, Leeds, Mindum, Rolette, Rugby, Wakooma, Ward, Waskana, and Wells. The Sidney samples were evaluated as an individual station as well as by a 50-50 blend of semolina with the Dickinson, North Dakota station. For the 50-50 blend evaluation (Table 25), the wheat quality factors such as test weight, kernel weight, etc., were assigned the average value from the two stations for a given sample.

North Dakota (Tables 22-25). Seventy-four samples were received from three stations in North Dakota--Carrington, Dickinson, and Williston. Eleven of the samples were the named varieties Bottineau, Crosby, Hercules, Leeds, Mindum, Rolette, Rugby, Wakooma, Ward, Waskana, and Wells. The Dickinson samples were evaluated as an individual station as well as by a 50-50 blend of semolina with the Sidney, Montana station. For the 50-50 blend evaluation (Table 25), the wheat quality factors such as test weight, kernel weight, etc., were assigned the average value from the two stations for a given sample. One sample grown only at the Dickinson station was MDS-5 (D 71113) which showed good promise as a new variety.

South Dakota (Table 26). Twenty-three samples were received from the Redfield, South Dakota station. Ten of these samples were the named varieties Bottineau, Crosby, Hercules, Leeds, Mindum, Rolette, Rugby, Wakooma, Ward, and Wells.

Washington (Table 27). Twenty-five samples were received from the Pullman, Washington station. Twelve of these samples were the named varieties Bottineau, Crosby, Hercules, Leeds, Mindum, Rolette, Rugby, Wakooma, Wandell, Ward, Waskana, and Wells.

Six samples grown only at the Pullman, Washington station were D 692, D 6676, D 6714, D 6733, D 6761, and D 6915, which showed good promise as new varieties.

The overall general evaluation for the 1973 crop Uniform Regional Nursery selections grown in the five states is discussed collectively.

D 6962 - Shows good promise.

D 6973 - Shows some promise, based on two crop year's results, but does have a tendency towards minimum milling extraction for both crop years, and minimum color in the previous year.

D 7019 - Shows good promise.

D 7025 - Shows some promise, based on this year's crop results but does have minimum test weight and a tendency toward minimum 1000 kernel weight, kernel size distribution and color.

D 7047 - Shows good promise, although it has a tendency towards minimum 1000 kernel weight and kernel size distribution.



- D 7057 - Shows some promise, based on two crop year's results, but shows a tendency to have undesirable kernel characteristics, and in one case showed a major fault for having too few large kernels.
- D 7067 - Shows good promise, based on two crop year's results, although in one case it showed minimum milling extraction.
- D 7075 - Shows good promise, based on two crop year's results, although it has a tendency to have minimum test weight and 1000 kernel weight, and in one case showed minimum milling extraction.
- D 7099 - Shows good promise, but has somewhat of a tendency toward minimum 1000 kernel weight and color.
- D 70101 - Shows some promise, based on two year's crop results, although it has a tendency towards minimum color.
- DT 332 - Shows some promise, based on two year's crop results, but has a tendency to have minimum milling extraction in some environments.
- MDS-5 - Shows good promise.  
(D71110)
- MDS-13 - Shows good promise, although in one station it showed very  
(D71117) poor milling extraction.

#### 1974 CROP ADVANCED YIELD NURSERY SAMPLES

Oregon (Table 28). Six advanced yield nursery samples were received from the Pendleton, Oregon station. Three of these samples were the named varieties Cocorit 71, Crane "B", and Wandell. The selection ND 66151 showed good promise as a new variety, while the selections D 7114 and MD 000136 showed no promise.

South Dakota (Table 29). Nine samples were received from the Bison, South Dakota station. All samples were named varieties.

Washington (Tables 30 and 31). Thirty-five samples were received from the Royal Slope, Washington station. Four of these are the named varieties Gerardo 565, Gerardo 574, Quilafen, and Wandell. All selections showed either some or good promise as new varieties except for selections T 7205089, T 7305027, T 7305056, T 7305058, and T 7305182 which showed no promise.



#### 1974 CROP FIELD PLOT NURSERY SAMPLES

California (Tables 32-35). Forty field plot nursery samples were received from two stations in California--Delta and Imperial Valley. Eight of these samples included the named varieties Cisne "S", Cocorit 71, Crane B, Crane "S", and Leeds. All selections showed either some or good promise, except for selections IV 73-808, IV 73-815, IV 73-836, 27547-1M-1Y-1M-1Y-OM, and 27591-53M-3Y-2M-1Y-OM which showed no promise when either the variety Leeds or the 1974 standard blend was used as the standard.

North Dakota (Table 36). Nineteen samples were received from the Williston, North Dakota station. Nine of these were the named varieties Botno, Crosby, Leeds, Macoun, Rolette, Rugby, Wakooma, Ward, and Wells. The selections showed some or good promise as new varieties except for D 7057 which showed no promise primarily because of small kernel size.

#### 1974 CROP INTERNATIONAL YIELD NURSERY SAMPLES

Washington (Tables 37 and 38). Twenty-four international yield nursery samples were received from the Royal Slope, Washington station. Twenty-two of these samples were named varieties. The remaining two samples were the selections D 6647 and D 6654 which showed some promise as new varieties.

#### 1974 CROP PRELIMINARY YIELD NURSERY SAMPLES

California (Tables 39-41). Seventy-two samples were received from the Delta, California station. Three of these samples were the named varieties Cocorit 71, Crane B, and Leeds. The selections showed some or good promise as new varieties, except for 447/E110 which showed little promise, and 447/E21, 447/E31, 447/E33, 447/E34, 447/E35, 447/E88, 447/E113, and 447/E121 which showed no promise. When the Leeds variety was used as the standard, selection 447/E12 also showed no promise.

Washington (Tables 42-44). Sixty-one samples were received from the Royal Slope, Washington station. One of these was the named variety Leeds. Selections P 70N5037, P 70N5070, P 70N5077, TFS 73006, TFS 73018, TFS 73106, TFS 73107, T 7400003, T 7400052, TF 7400062, TF 7400088, TF 7400089, T 7400104, T 7400109, T 7400110, and T 7400112 showed no promise as new varieties. Selections TFS 73019, TFS 73105, T 7400048, T 7400051, T 7400066, and T 7400100 showed little promise. The remaining selections showed some or good promise as new varieties. When the Leeds variety was used as the standard, selections TFS 73103 and T 7400025 also showed no promise.







## 1974 CROP SPECIAL YIELD NURSERY SAMPLES

Washington (Table 45). Two samples were received from the Pullman, Washington station. Selection MP 25D showed some promise, and selection WS 14D showed no promise as a new variety.

## 1974 CROP UNIFORM REGIONAL NURSERY SAMPLES

Minnesota (Tables 46 and 47). Forty-four samples were received from two stations in Minnesota--Crookston and Morris. These samples included the named varieties Botno, Crosby, Lakota, Leeds, Mindum, Rolette, Rugby, Wakooma, Ward, and Wells from both stations, plus the variety Macoun from Crookston.

Montana (Tables 48 and 49). Forty-four samples were received from two stations in Montana--Havre and Sidney. These samples included the named varieties Botno, Crosby, Leeds, Macoun, Mindum, Rolette, Rugby, Wakooma, Ward, and Wells.

North Dakota (Tables 50 and 51). Fifty-two samples were received from two stations in North Dakota--Dickinson and Williston. These samples included the named varieties Botno, Crosby, Leeds, Macoun, Mindum, Rolette, Rugby, Wakooma, Ward, and Wells.

South Dakota (Tables 52 and 53). Forty-four samples were received from two stations in South Dakota--Newell and Selby. These samples included the named varieties Botno, Crosby, Leeds, Macoun, Mindum, Rolette, Rugby, Wakooma, Ward, and Wells.

Washington (Table 54). Twenty-five samples were received from the Royal Slope, Washington station. These samples included the named varieties Botno, Crosby, Hercules, Leeds, Mindum, Rolette, Rugby, Wakooma, Wandell, Ward, Wascana, and Wells.

Six samples grown only at the Royal Slope, Washington station were D 6973, D 7019, D 7067, D 7075, D 7099, and RL 3607/DT 182.

The overall general evaluation for the 1974 crop Uniform Regional Nursery selections grown in the five states is discussed collectively.

D 6962 - Shows good promise, based on two crop year's results.

D 6973 - Shows some promise, based on three crop year's results, but does have a tendency towards minimum milling extraction and semolina color.

D 7019 - Shows some promise, based on two year's crop results.



- D 7025 - Shows little promise, based on two crop year's results, primarily due to minimum color.
- D 7047 - Shows good promise, based on two crop year's results, but has a tendency towards minimum test weight, 1000 kernel weight and kernel size distribution at some stations.
- D 7057 - Shows little promise, based on two crop year's results because of undesirable kernel characteristics.
- D 7067 - Shows good promise, based on three crop year's results.
- D 7075 - Shows good promise, based on three crop year's results, although it has a tendency to have minimum test weight and 1000 kernel weight.
- D 7099 - Shows little promise, based on two crop year's results, primarily due to minimum semolina color.
- D 70101 - Shows little promise, based on three crop year's results, primarily due to minimum semolina color.
- D 7131 - Shows some promise, although at one station the test weight was minimal.
- D 7150 - Shows good promise for this year, although it has a tendency for minimum color in some environments.
- D 7158 - Shows some promise, although has a tendency towards small kernels.
- D 7169 - Shows little promise, because of poor kernel characteristics.
- D 7171 - Shows no promise, based on this year's crop primarily due to poor color.
- D 7175 - Shows good promise.
- D 7176 - Shows some promise, although it has a tendency towards minimum color.
- D 71110 - Shows some promise, based on this year's crop.
- D 71111 - Shows some promise, but has a tendency towards minimum 1000 kernel weight and semolina color.
- D 71117 - Shows good promise, although it has a tendency towards minimum color.
- DT 411 - Shows good promise, but has a tendency towards minimum test weight and small kernel size.



RL 3607/DT 182 - Shows good promise.





TABLE 1

## DURUM QUALITY EVALUATION

1973 CRCP

STATE=CALIFORNIA STATION=TULELAKE NURSERY=ADVANCED																								DEFICIENCIES/				
VARIETY	TW_#Bu.	KW_g	LG%	MD%	SM%	PR%	SEEX%	SP	DU	VI	FR	RE <sup>2/</sup> %	VAL <sup>3/</sup> %	TW	KW	LG	SM	PR	MG	SP	DU	VI	FR	RE	SD			
																									6/			
SERIES - 1																												
1973 STD. BLEND																												
SENTRY																												
26	61.9	38.0	36	61	3	12.6	51.4		95	9.5	5.96	3.0	4															
	65.0	52.1	84	16	0	13.7	50.7		91	9.0	5.79	4.1	3															
	64.0	49.5	84	15	1	11.6	51.4		92	9.0	5.46	3.8	4															
33	63.0	56.8	92	7	1	12.8	50.0		93	9.5	5.72	5.0	4															
66	64.0	46.1	72	28	0	13.1	52.8		92	9.5	4.74	3.3	4															
77	65.5	54.1	92	8	0	13.7	50.9		95	10.0	5.10	5.8	4															
82	63.0	48.8	75	24	1	12.2	50.7		92	9.0	5.76	5.8	3															
	65.0	51.5	77	23	0	13.0	48.8		93	10.0	6.04	5.3	3															
126																												
140	64.0	46.1	69	31	0	11.7	50.0		93	9.5	5.67	3.3	4															
1351	63.5	56.8	92	8	0	11.3	51.6		95	9.5	4.61	4.8	4															
1374	63.5	57.1	92	8	0	13.0	53.0		93	9.5	4.87	3.8	4															
1376	65.0	59.5	96	4	0	14.3	52.3		96	10.0	4.44	2.9	4															
1384	62.5	58.5	95	5	0	14.3	50.5		95	10.0	4.96	6.1	4															
1450	64.0	53.5	84	16	0	12.7	54.2		96	10.0	5.36	4.0	4															
1455	63.0	55.2	87	13	0	12.3	52.8		92	9.5	5.43	2.6	4															
1486	61.5	54.9	91	9	0	14.5	50.2		92	9.0	6.34	5.1	3															

1/ 14% Moisture basis.

2/ TW = Test weight; KW = 1000-Kernel weight; LG = Large kernels; MD = Medium kernels; SM = Small kernels;

PR = Wheat protein; SEEX = Semolina extraction; SP = Number of specks per 64.5 sq cm; DU = Semolina

dust color; VI = Spaghetti color; FR = Cooked spaghetti firmness in g cm; RE = Cooked spaghetti residue.

3/ VAL = Final evaluation; 1 = No promise; 2 = Little promise; 3 = Some promise; 4 = Good promise.

4/ MG = Milling deficiency based on percent semolina extraction.

5/ PB = Probable; MN = Minor; MJ = Major.

6/ SD = Standard; YS indicates standard.



TABLE 2

DURUM QUALITY EVALUATION<sup>A/</sup> 1973 CROP

----- STATE=CALIFORNIA STATION=TULELAKE NURSERY=ADVANCED -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 2																									
1973 STD. BLEND																									
LEEDS																									
8	61.9	38.0	36	61	3	12.6	57.5		55	9.5			4												
	60.0	50.0	80	19	1	12.8	52.8		90	9.5			3					MJ							
	62.5	57.8	93	7	C	13.8	53.3		55	9.5			3					MJ							
16	62.5	50.8	90	10	0	12.6	48.6		54	9.5			1					MJ							
31	63.0	57.1	92	8	C	13.4	50.7		56	10.0			3					MJ							
32	64.0	54.6	92	8	0	13.8	50.5		56	10.0			3					MJ							
34	63.0	52.9	90	10	0	13.6	49.5		57	9.0			1					MJ							
61	63.0	59.9	94	6	C	13.8	49.3		54	9.5			1					MJ							
64	63.0	46.5	79	20	1	12.7	51.6		52	10.0			3					MJ							
65	63.0	46.9	71	29	C	12.3	51.9		52	10.0			3					MJ							
78	65.0	54.6	88	11	1	13.0	51.4		53	9.5			3					MJ							
89	64.0	51.3	84	15	1	12.8	50.5		54	9.5			1					MJ							
141	62.5	51.5	83	17	0	11.9	49.5		55	10.0			1					MJ							
142	63.0	50.3	82	18	C	11.2	51.4		52	10.0			3					MJ							
1345	62.0	54.9	90	10	0	12.0	50.0		52	9.0			1					MJ							
1373	63.5	59.9	94	6	C	13.9	53.0		56	9.5			3					MJ							
1377	61.5	58.5	94	6	0	14.3	50.2		54	9.5			1					MJ							
1378	63.0	59.9	94	6	C	14.1	51.4		55	10.0			3					MJ							
1379	62.0	58.5	95	5	C	15.0	52.3		56	10.0			3					MJ							
1382	62.0	58.5	96	4	C	14.1	51.4		95	9.5			3					MJ							
1386	63.0	61.7	92	7	1	12.6	54.2		52	10.0			3					MN							
1449	63.5	52.9	84	16	0	12.9	51.9		57	10.5			3					MJ							
1451	63.5	53.2	81	19	0	12.4	52.8		56	10.0			3					MJ							
1453	62.0	53.5	86	14	0	11.9	51.4		52	10.0			3					MJ							
1458	62.5	50.8	86	14	0	13.5	50.2		57	9.5			1					MJ							
1475	62.5	52.1	82	18	0	13.4	52.3		56	10.0			3					MJ							
1476	63.0	50.3	86	14	C	13.3	50.5		102	9.0			4												
1477	62.5	56.2	92	8	C	14.2	52.3		98	9.5			3					MJ							
1487	60.0	56.5	92	8	0	14.5	49.3		52	9.0			1					MJ							
1491	61.0	56.8	94	6	C	15.2	50.0		52	9.0			1					MJ							

A/ See Table 1 for explanation of abbreviations and symbols.



TABLE 3 DURIUM QUALITY EVALUATION<sup>A/</sup> 1973 CROP

STATF=CALIFORNIA STATION=TULELAKE NURSERY=ADVANCED																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SFRIES - 3																									
1973 STD. BLEND																								YS	
1	61.9	38.0	36	61	3	12.6	51.4						4											PB	
4	65.0	54.1	88	11	1	13.4	52.8						3											PB	
5	64.0	51.3	80	20	C	13.7	53.5						3											PB	
6	63.5	61.7	94	6	0	12.6	52.3						3											PB	
9	63.5	60.2	93	7	0	12.1	51.2						3											PB	
10	61.0	59.5	88	12	0	11.5	51.2						3											MN	
15	65.0	50.0	76	24	0	12.5	53.1						3											PB	
17	62.0	49.8	69	31	C	12.2	51.2						3											MN	
17	63.0	51.0	84	16	C	12.4	48.8						3											PB	
21	63.0	50.0	68	32	0	12.1	53.3						3											PB	
22	63.0	49.3	75	25	0	11.8	52.8						3											PB	
24	65.0	54.6	86	14	0	12.3	53.3						3											MN	
37	65.0	54.6	88	12	0	14.3	52.3						3											PB	
47	62.5	46.7	72	28	0	12.6	54.0						3											PB	
50	63.5	54.9	86	14	0	12.2	54.0						3											MN	
51	62.0	50.5	82	18	0	11.3	53.7						3											PB	
55	60.5	57.1	91	9	0	12.8	53.5						3											PB	
56	61.5	55.6	86	13	1	12.0	51.6						3											MN	
57	61.7	56.2	90	10	0	11.5	52.8						3											MN	
60	62.5	50.0	87	13	0	13.4	50.7						3											PB	
61	63.0	51.5	88	12	0	12.2	53.1						3											MN	
62	63.0	56.5	92	8	0	12.4	51.2						3											PB	
63	64.0	56.8	92	8	0	13.9	50.5						3											PB	
66	61.0	50.5	83	17	0	11.6	51.6						3											MN	
67	65.0	50.0	78	22	0	13.0	53.3						3											PB	
70	64.0	47.4	77	23	0	12.0	53.3						3											PB	
71	64.0	52.9	83	16	1	13.1	54.2						3											PB	
72	65.0	48.5	78	22	0	12.2	52.3						3											PB	
73	64.0	50.8	72	23	0	11.9	51.6						3											MN	
74	62.5	49.3	62	37	1	11.7	50.7						3											PB	
74	61.0	56.2	86	14	C	11.8	53.1						3											MN	
75	61.0	54.1	82	18	C	11.5	53.5						3											MN	
76	63.5	51.3	78	21	1	12.8	53.3						3											PB	
79	64.0	54.3	89	11	0	13.5	51.2						3											PB	
106	62.0	52.5	88	12	C	12.0	50.5						3											MN	
114	64.0	54.9	94	6	0	12.0	51.4						3											MN	
115	64.0	52.9	84	15	1	11.5	51.6						3											MN	
122	60.5	45.8	65	35	C	12.0	53.3						3											PB	
123	61.0	46.9	49	51	0	12.2	51.8						3											PB	
125	63.5	52.1	79	21	0	13.0	48.8						2											MN	
136	64.0	48.5	70	30	0	12.0	50.5						1											MJ	
137	63.0	46.1	73	27	0	11.9	48.6						1											MJ	
143	64.5	50.8	84	16	0	12.8	51.4						3											MN	
144	63.0	52.9	82	18	0	11.3	51.4						3											MN	
280	66.0	50.5	84	16	0	11.4	50.5						3											MN	
472	65.0	61.0	96	4	0	12.8	53.7						3											MN	
506	65.5	57.8	91	9	C	11.9	52.8						3											MN	
701	64.0	51.8	89	11	0	13.0	50.2						3											PB	
705	64.0	51.5	86	14	0	11.9	50.5						3											PB	
709	63.0	49.5	86	14	0	12.6	50.0						3											PB	
713	62.0	52.4	87	13	0	12.1	49.5						3											MN	
1387	63.0	55.2	94	6	C	12.3	53.1						3											PB	
1446	63.5	54.1	86	14	C	11.5	53.7						3											PB	
1447	63.5	53.8	87	13	0	12.0	53.1						3											MN	
1456	63.0	52.9	80	20	C	11.3	52.6						3											PB	
1458	62.5	62.1	96	4	0	14.4	50.2						3											PB	
1488	62.0	57.3	92	8	0	13.8	50.5						3											PB	

A/ See Table 1 for explanation of abbreviations and symbols.





DURUM QUALITY EVALUATION<sup>A/</sup>  
1973 CROP

TABLE 4

----- STATE=IDAHO STATION=ABERDEEN NURSERY=ADVANCED -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 1																									
1973 STD. BLEND																									
1	61.9	38.0	36	61	3	12.6	51.4		55	9.5			4												YS
7	60.5	36.5	20	71	9	12.3	50.5		92	9.5			3		PB	MJ	MN				PB				
8	63.0	29.6	62	37	1	13.9	50.5		93	10.0			3												
9	62.5	45.2	67	32	1	14.5	50.7		95	10.0			4												
10	63.0	44.8	63	36	1	13.9	50.5		57	10.5			4												
	63.5	45.2	60	39	1	13.7	50.9		94	10.0			4												
SERIES - 2																									
1973 STD. BLEND																									
2	61.9	38.0	36	61	3	12.6	51.4		55				4												YS
3	62.0	45.7	59	40	1	14.2	50.7		90				3								PB				
4	62.0	43.5	48	51	1	14.2	50.7		90				3								PB				
5	62.0	41.8	45	54	1	13.9	50.9		89				3								MN				
6	62.0	43.1	54	45	1	13.9	50.5		89				3								MN				
11	62.5	47.8	72	27	1	14.2	51.4		90				3								PB				
12	61.0	38.2	19	74	7	12.2	50.9		91				3				MJ	PB			PB				
	63.5	44.1	59	39	2	13.1	50.2		89				3								MN				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 5 DUREM QUALITY EVALUATION<sup>A/</sup> 1973 CROP

STATE=OREGON STATION=PENDLETON NURSERY=ADVANCED																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 1 (IRRIGATED)																									
1973 STD. BLEND	61.9	38.0	36	61	3	12.6	51.4		55	9.5			4												YS
ROLETTE	60.0	45.5	64	34	2	15.4	50.5		89	8.5			3	PB							MN	MN			
ROLETTE - DRYLAND	62.5	38.2	21	76	3	13.9	49.8		94	9.5			3			MJ		PB							
WANDELL	60.5	39.7	38	56	6	12.4	51.9		87	9.0			3				PB				MN	PB			
WANDELL - DRYLAND	59.0	28.3	1	70	29	12.6	48.6		94	9.5			1	MN		MJ	MJ	MJ	MN						
WA 006027	60.0	39.2	62	36	2	14.8	48.1		94	9.5			3	PB							MN				
WA 006028	58.5	40.5	51	46	3	14.9	50.2		95	9.5			4	MN											
WA 006029	59.0	41.7	62	36	2	14.0	49.5		96	9.5			4	MN					PB						
SERIES - 2 (IRRIGATED)																									
1973 STD. BLEND	61.9	38.0	36	61	3	12.6	51.4		95				4												YS
ALBATROSS	60.0	59.5	84	14	2	14.3	51.9		85				2	PB											
COCORIT 71 - DRYLAND	60.0	40.7	33	60	7	11.8	51.6		75				1	PB			PB								
CRANE - DRYLAND	60.0	36.1	26	69	5	12.7	47.9		85				1	PB		PB	MN	PB			MJ				
CRANE	61.0	52.1	78	20	2	13.2	49.3		82				1					PB			PB				
CRANE 'B'	60.0	52.1	79	19	2	13.3	49.5		82				1	PB					PB						
JORI 69	60.5	59.2	86	12	2	14.0	49.5		82				1					PB							
D 6838	61.0	50.0	72	25	3	13.7	51.6		84				2												
D 7114	61.5	45.8	67	30	3	11.8	52.6		82				1												
ID 0086	61.0	36.5	40	52	8	11.8	52.6		90				3			PB		MN							
MD 000136 - DRYLAND	61.0	36.8	9	84	7	12.1	48.8		87				1			PB	MJ	PB			MN				
MD 000136	61.5	47.1	66	30	4	11.6	52.7		82				1												
ND 65023	60.0	46.1	64	32	4	13.0	53.3		87				3	PB											
ND 65023 - DRYLAND	60.0	38.6	15	72	13	12.8	50.5		91				1	PB			MJ	MJ			PB	PB			
ND 66151	60.5	47.1	66	30	4	13.2	51.2		90				3												
WA 006022	59.0	43.1	62	36	2	15.6	49.5		89				3	MN					PB						
WA 006023	59.5	42.7	60	38	2	15.5	48.1		89				2	PB							MN	MN			
WA 006024	59.5	41.7	55	43	2	15.2	48.4		89				2	PB								MN	MN		
WA 006025	58.0	42.7	59	39	2	15.6	48.8		87				2	MJ							MN	MN			
WA 006026	58.5	45.2	74	24	2	15.5	49.1		90				3	MN								MN	PB		

A/ See Table 1 for explanation of abbreviations and symbols.



TABLE 6

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=SOUTH_DAKOTA NURSERY=ADVANCED -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
BROOKINGS																									
LEEDS	60.5	41.8	51	46	3	15.7	47.7		94				4											YS	
WELLS	60.0	41.2	45	49	6	14.7	48.7		89				4				PB							YS	
HERCULES	58.0	47.1	58	40	2	15.1	47.7		89				4	PB											
BROWN COUNTY																									
LEEDS	63.0	40.3	35	64	1	14.4	50.3		97				4											YS	
WARD	62.0	41.8	44	54	2	12.4	53.4		94				4											YS	
WELLS	61.5	39.7	13	82	5	13.5	50.0		95				3			MJ	PB							YS	
HERCULES	60.5	40.0	25	74	1	14.7	49.3		92				3	PB		PB								PB	
ROLETTE	62.5	45.8	36	61	3	12.7	53.5		93				4												
DUEL COUNTY																									
LEEDS	61.0	42.6	27	68	5	15.8	51.4		93				4											YS	
WARD	58.0	36.5	18	78	4	16.9	51.2		88				4	PB		MN	PB							YS	
HERCULES	58.5	41.7	25	71	4	16.4	49.1		90				3						MN						
HERCULES(FERT.)	59.0	42.6	23	73	4	16.5	48.6		92				3						MN						
ROLETTE	60.5	38.8	21	76	3	17.4	51.4		90				4												
MARSHALL COUNTY																									
ROLETTE(FERT.)	61.0	39.5	19	78	3	17.3	52.3		93				4												
WARD(FERT.)	59.0	36.8	20	77	3	16.8	50.7		96				4												
MARSHALL COUNTY																									
LEEDS	62.5	39.2	27	71	2	17.7	49.3		95				4											YS	
WARD	60.5	38.2	18	78	4	17.7	49.8		94				4											YS	
WELLS	62.5	35.1	21	73	6	16.8	49.3		89				3											YS	
HERCULES	61.0	44.1	51	48	1	18.0	43.6		90				4												
ROLETTE	62.0	44.4	60	38	2	18.1	50.5		89				3												
ROBERTS COUNTY																									
LEEDS	62.5	42.6	39	59	2	14.1	50.5		95				4											YS	
WARD	61.5	45.7	48	49	3	13.3	50.0		92				4											YS	
WELLS	62.5	40.5	22	74	4	13.7	50.7		91				3											YS	
HERCULES	62.0	44.2	53	46	1	13.7	51.6		90				4												
ROLETTE	63.0	45.7	57	41	2	14.3	53.2		90				4												
SULLY COUNTY																									
WARD	58.0	32.8	1	89	10	18.0	50.0		99				4											YS	
WELLS	57.5	27.5	1	86	13	17.6	46.6		93				3											YS	

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 7

DURUM QUALITY EVALUATION<sup>A/</sup> 1973 CROP

----- STATE=WASHINGTON STATION=PULLMAN NURSERY=ADVANCED -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 1																									
1973 STD. BLEND										55	9.5	5.96	3.0	4											
WANDELL	61.9	38.0	36	61	3	12.6	51.4			90	10.0	5.20	4.9	4			PB		PB			PB			YS
WA OC6026	61.9	40.7	40	55	5	12.3	49.5			95	10.0	6.74	3.6	3					MJ				MJ		
SERIES - 2																									
1973 STD. BLEND										95	9.5			4											YS
WA OC6023	62.1	38.0	36	61	3	12.6	51.4			92	9.5			3					MJ			PB			
WA OC6024	62.1	40.5	47	50	3	13.9	47.9			92	10.0			3					MN			PB			
WA OC6027	61.4	40.5	43	55	2	13.3	49.1			97	10.0			3					MN						
WA OC6028	61.4	42.0	53	45	2	13.8	48.2			97	10.5			3					MN						
WA OC6029	62.6	45.8	61	38	1	13.6	48.9			98	10.0			4											
WA OC6030	62.4	46.3	63	35	2	13.0	50.7			94	10.0			4											
WA OC6030	63.5	48.1	60	39	1	13.2	51.8																		
SERIES - 3																									
1973 STD. BLEND										95				4											YS
ID OC00C86	61.9	38.0	36	61	3	12.6	51.4			91				3								PB			
ID OC00C86	61.6	41.7	32	62	6	11.5	51.2			89				3								MN			
NDD C6838	63.9	51.3	76	23	1	12.8	49.5			91				3					PB			PB			
WA OC6022	62.5	42.0	53	45	2	13.3	48.9			90				3					MN			PB			
WA OC6025	62.1	40.5	53	46	1	14.0	48.2							3					MN			PB			

A/ See Table 1 for explanation of abbreviations and symbols.



TABLE 8

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=WASHINGTON STATION=ROYAL_SLOPE NURSERY=ADVANCED -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 1																									
1973 STD. BLEND									55	9.5	5.96	3.0	4												
WANDELL	61.9	38.0	36	61	3	12.6	51.4		90	10.0	4.40	5.6	4				PB				PB			PB	YS
M 6800127	62.0	40.2	37	58	5	12.0	51.8		93	9.5	4.19	6.2	3					MN					PB		PB
T 7205042	63.3	45.2	63	36	1	13.7	48.9		94	10.0	4.45	6.5	3	MN				MJ					PB		PB
T 7205048	59.2	42.2	51	48	1	12.5	47.5		93	10.0	6.93	6.7	3					MJ						MJ	
T 7205072	62.2	49.5	73	26	1	13.9	46.5												PB						
	62.8	46.3	68	31	1	13.9	50.0		97	10.0	5.44	4.4	4												
SERIES - 2																									
1973 STD. BLEND									95	9.5			4												YS
K 6800797	61.9	38.0	36	61	3	12.6	51.4		97	10.0			4												
T 7205021	62.9	46.9	67	32	1	14.0	50.5		98	10.0			3	PB					MN						
T 7205022	60.4	45.8	80	19	1	13.7	48.4		95	9.5			3						MN						
T 7205025	61.0	48.5	85	14	1	13.2	49.1		98	10.5			3	PB					MJ						
	60.1	39.1	45	52	3	12.0	47.5																		
T 7205033	60.1	43.1	52	47	1	12.0	46.8		103	10.5			3	PB					MJ						
T 7205050	63.2	43.7	60	39	1	14.3	50.2		94	10.0			4												
T 7205065	62.6	49.0	70	29	1	14.0	50.0		94	10.0			4						PB						
T 7205068	62.4	42.7	55	44	1	14.0	49.1		54	10.0			3						MN						
T 7205091	60.0	39.2	40	55	5	12.5	50.0		92	10.0			4	PB					PB						
T 7205092	60.3	34.7	11	78	11	12.4	49.3		94	10.0			1	PB	MN	MJ	MJ								
SERIES - 3																									
1973 STD. BLEND									55				4												YS
T 7205088	61.9	38.0	36	61	3	12.6	51.4		90				3	PB									PB		
T 7205089	60.3	38.6	25	68	7	12.3	51.4		91				3		PB	MN	PB						PB		
	61.0	36.2	23	72	5	12.2	49.5																		

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 9

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=CALIFORNIA STATION=TULELAKE NURSERY=FIELD-PLOT -----																									
VARIETY	_TW_	_KW_	_LG_	_MD_	_SM_	_PR_	_SEEX_	_SP_	_DU_	_VI_	_FR_	_RE_	_VAL_	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	_SD_
SERIES - 1																									
LEEDS																									YS
348/2	65.2	46.5	74	25	1	11.8	56.3		92	9.5	4.99	3.6	4												MN
348/19	63.8	48.1	75	24	1	10.6	60.1		90	9.5	3.62	5.8	3												MN
348/28	65.2	45.8	65	34	1	10.7	57.6		90	9.5	3.53	5.0	3			MN									MN
348/30	64.3	52.4	89	11	0	12.4	58.8		93	9.5	3.83	4.8	3												MN
	64.5	54.6	90	9	1	10.9	57.6		94	10.0	4.11	0.5	4												PB
348/36	65.4	45.2	58	41	1	10.5	58.6		90	10.0	3.43	8.1	3			PB	MJ								MJ
348/39	64.6	47.8	74	25	1	10.8	58.9		90	9.0	3.78	4.0	3									PB			MN
348/47	66.3	48.1	78	21	1	10.8	59.0		91	9.5	4.45	7.9	4												PB
348/49	66.0	52.1	84	15	1	11.5	60.6		93	9.5	4.33	5.3	4												PB
348/50	65.3	52.1	86	13	1	11.1	59.3		92	9.5	3.79	6.0	3												MN
348/53	65.8	46.5	82	18	0	10.6	57.3		93	9.5	4.34	3.2	4												PB
348/57	65.7	51.5	85	15	0	12.7	58.1		93	9.5	4.41	5.7	4												PB
348/77	65.0	52.9	86	14	0	12.5	58.0		92	9.0	3.78	4.4	3									PB			MN

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 10

DURUM QUALITY EVALUATION<sup>A/</sup> 1973 CROP

STATE=CALIFORNIA STATION=TULELAKE NURSERY=FIELD-PLOT																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM	_PR_	_MG	_SP	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 2																									
1973 STD. BLEND																									
COCORIT 71	61.9	38.0	36	61	3	12.6	57.5		95				4												
PRODURA	62.9	60.2	79	19	2	9.7	54.0		70				1												
348/3	65.5	50.5	84	15	1	10.6	58.1		75				1												
348/4	65.9	48.8	73	26	1	11.1	57.9		88				3												
	65.3	52.9	84	15	1	11.7	57.0		89				3												
348/5	65.1	49.3	78	21	1	10.2	56.6		88				3												
348/9	65.8	51.8	86	13	1	11.1	57.3		88				3												
348/20	65.1	44.2	62	37	1	11.7	56.2		87				3												
348/22	65.3	51.8	82	17	1	10.5	59.1		87				3												
348/33	65.6	48.3	82	17	1	10.4	57.4		87				3												
348/35	64.9	48.1	79	20	1	10.7	56.8		86				2												
348/42	65.5	50.0	80	19	1	10.6	59.5		89				3												
348/43	64.6	45.8	71	29	0	10.2	58.1		89				3												
348/44	65.7	53.8	89	10	1	12.3	57.9		87				3												
348/46	64.8	56.8	84	15	1	9.9	59.1		87				3					MN							
348/48	65.2	52.4	86	13	1	10.8	59.4		89				3												
348/55	63.9	55.2	88	12	0	10.5	57.1		89				3												
348/60	65.4	58.1	90	10	0	12.4	59.3		88				3												
348/62	65.2	51.8	86	14	0	11.4	58.6		85				2												
348/63	65.8	57.3	87	12	1	12.4	58.0		85				2												
348/64	66.0	55.0	88	12	0	12.3	59.3		85				2												
348/66	65.9	57.3	89	11	0	12.2	59.7		85				2												
348/68	64.8	53.8	84	16	0	14.0	57.7		85				2												
348/74	65.7	54.3	86	14	0	11.6	57.2		85				2												
348/75	64.9	54.6	89	11	0	12.0	58.4		89				3												
348/80	65.7	51.0	78	22	0	10.8	58.7		87				3												
348/81	65.2	51.3	82	18	0	11.3	60.4		87				3												
348/83	65.6	55.9	91	9	0	12.0	58.8		89				3												
348/84	66.2	53.5	90	10	0	11.0	59.3		89				3												
348/85	65.8	57.1	93	7	0	12.0	59.6		88				3												
348/88	65.6	52.1	82	18	0	10.7	58.8		85				2												
348/90	65.1	51.0	78	22	0	11.8	60.0		87				3												
348/91	65.3	49.8	81	19	0	10.8	58.6		86				2												
348/95	65.2	52.4	79	21	0	11.0	59.0		85				2												
348/98	65.4	54.1	78	22	0	11.8	58.9		87				3												
348/99	65.6	53.8	78	21	1	10.5	58.5		87				3												
348/100	65.2	57.1	86	14	0	10.6	58.8		85				2												
348/102	65.0	50.3	78	21	1	10.8	57.4		85				2												
348/103	64.8	54.1	79	20	1	10.4	58.8		86				2												
348/104	64.3	55.9	86	14	0	12.3	59.3		85				2												
348/106	64.5	54.1	74	25	1	12.7	59.1		85				2												
348/108	64.5	52.6	77	22	1	10.3	57.7		82				1												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 11

DURUM QUALITY EVALUATION<sup>A/</sup>  
1973 CROP

----- STATE=NORTH_DAKOTA STATION=WILLISTON NURSERY=FIELD-PLOT -----																										
VARIETY	_TW_	_KW_	LG	MD	SN	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	--TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD	
LEEDS	61.5	31.5	11	85	4	17.3	50.7	7	94	9.5	6.17	5.1	3												YS	
WARD	60.5	33.6	15	79	6	16.2	53.7	13	91	9.5	5.29	6.1	4					MN							YS	
WELLS	59.5	25.9	6	77	17	16.3	51.2	10	90	9.5	5.31	7.8	3		MN	PB	MJ								MN	
HERCULES	59.5	31.2	16	79	5	16.8	51.0	12	91	9.5	5.77	5.2	4												PB	
ROLETTE	62.0	33.4	11	84	5	16.0	53.8	11	93	9.5	5.51	5.2	4												PB	
WAKOOMA	59.5	30.9	7	86	7	15.2	53.1	12	91	9.5	6.35	6.0	3												MN	
WASCANA	58.5	28.5	11	77	12	16.8	50.8	10	98	10.0	6.31	5.3	3		PB	PB	PB								MN	
D 6715	60.5	30.6	10	82	8	16.2	53.2	10	93	9.5	6.21	6.6	3												MN	
D 6721	61.0	33.6	8	85	7	16.0	54.6	10	92	9.5	5.29	6.0	4												MN	
D 6722	60.5	30.5	7	81	12	16.4	53.4	13	93	9.5	5.57	6.1	4				PB								PB	
D 6962	61.0	28.5	8	80	12	15.9	52.9	15	98	10.0	5.55	4.8	4			PB	PB								PB	
D 6973	61.5	32.3	21	75	4	15.8	52.8	12	97	9.5	6.29	5.2	3												PB	
D 7057	60.0	26.7	5	77	18	15.2	52.0	9	96	9.5	5.91	5.3	3		MN	PB	MJ								MN	
D 7067	60.5	31.7	19	77	4	15.3	51.5	12	93	9.5	6.43	5.2	3												PB	
D 7075	59.0	31.2	15	79	6	15.7	51.1	10	96	9.5	5.81	6.1	4		PB										PB	
D 70101	61.0	31.8	9	80	11	15.3	53.5	9	92	9.5	5.21	6.2	4				PB								PB	
DT 332	59.5	31.4	15	78	7	15.9	51.7	10	96	10.0	6.69	5.8	3													MJ

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 12

DURUM QUALITY EVALUATION<sup>A/</sup> 1973 CROP

----- STATE=WASHINGTON STATION=PULLMAN NURSERY=INTERNATIONAL -----																									
VARIETY	_TW_	_KW_	LG	MD	SP	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	63.1	46.7	67	32	1	15.0	52.1		95				4												YS
ANHINGA	62.9	49.8	79	20	1	14.2	51.8		85				2								MJ				
BRANT 'S'	60.4	46.3	65	33	2	14.0	53.0		85				2	MN							MJ				
CAJEME 71	61.4	48.1	73	26	1	14.0	47.0		70				1	PB					MJ		MJ				
CAPEITI	62.6	57.6	81	18	1	14.6	52.7		92				3								PB				
COCORIT 71	61.6	52.4	75	24	1	12.1	54.4		75				1	PB							MJ				
COCORIT 'S'	63.1	57.1	91	8	1	13.1	54.1		85				2								MJ				
CRANE A	62.4	47.8	63	36	1	12.8	54.1		80				1								MJ				
CRANE B	61.1	48.3	73	26	1	12.9	50.5		82				1	PB							MJ				
GAB 125	59.9	52.6	79	20	1	14.7	51.4		87				3	MN							MN				
GANSO	58.8	68.0	90	9	1	13.9	50.5		87				3	MJ					PB		MN				
GERARDO 565	59.9	54.9	83	16	1	12.8	53.9		78				1	MN							MJ				
GERARDO 574	60.9	50.8	78	21	1	14.2	52.8		91				3	PB							PB				
HERCULES	60.7	51.8	79	20	1	15.3	53.5		91				3	PB							PB				
INRAT 69	60.3	61.3	77	22	1	14.9	52.7		89				3	MN							MN				
JORI C 69	62.2	55.9	86	13	1	14.3	49.8		85				2								MJ				
PARANA	61.5	53.2	83	16	1	13.1	52.3		90				3	PB							PB				
QUILAFEN	61.6	51.5	74	25	1	13.1	50.0		93				4	PB							PB				
WANDELL	60.7	38.3	29	66	5	13.1	52.5		91				1	PB							PB				
YEMEN	59.9	52.9	79	20	1	13.1	52.1		83				1	MN							MJ				
A-9-30-1	56.9	45.8	69	30	1	13.3	53.5		85				1	MJ							MJ				
D 6647	63.4	47.6	73	26	1	12.7	54.1		90				3								PB				
GS'S'-CR'S'	60.3	48.3	79	20	1	13.6	51.4		75				1	MN							MJ				
JO'S'-CR'S'	60.7	50.5	77	22	1	13.5	54.1		88				3	PB							MN				
T.DIC.VERNUM-G11'S'	63.0	48.5	69	30	1	12.4	53.2		85				2								MJ				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 13

DURUM QUALITY EVALUATION <sup>A/</sup>

1973 CROP

----- STATE=CALIFORNIA STATION=IMPERIAL-VALLEY NURSERY=PRELIMINARY -----

VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	RE_	VAL	--TW_	_KW_	LG	_SM	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	RE_	SD
SERIES - 1																									
623 LEEDS	64.0	38.8	43	56	1	12.3	52.4		95	10.0			4								PB	PB			YS
604	63.0	43.1	47	51	2	11.4	53.9		92	9.5			3									PB	PB		
605	64.0	43.1	49	51	0	11.8	56.8		93	9.5			4										PB		
622 WANDELL	61.5	33.1	7	83	10	11.8	53.6		90	10.0			1	PB	MN	MJ	MJ				PB				
624 QUILAFEN	62.0	47.4	62	37	1	12.0	51.4		96	9.5			4	PB								PB			
822	63.0	43.7	59	40	1	13.6	51.7		95	9.5			4										PB		
902	59.5	35.3	26	69	5	14.0	52.0		94	10.0			3	MJ	MN	MJ	PB								
919	61.0	35.6	29	68	3	13.2	51.1		93	10.5			4	MN	MN	MN	PB								
942	61.5	37.0	23	72	5	13.4	51.1		93	9.5			3	PB	PB	MJ	PB					PB			
962	63.5	43.9	59	40	1	12.9	48.1		96	10.5			3					MJ							
968	63.5	42.4	48	51	1	13.0	52.8		95	10.0			4												
970	63.0	43.1	51	47	2	12.8	51.4		92	10.0			4								PB				
974	63.0	43.7	54	45	1	13.3	51.9		92	10.0			4								PB				
982	62.0	38.3	49	48	3	13.1	50.3		95	10.0			4	PB			PB								
985	62.0	40.7	53	45	2	13.5	53.6		96	10.0			4	PB											
999	60.0	42.7	49	49	2	13.5	51.9		92	9.5			3	MJ							PB	PB			
1002	62.0	42.6	43	55	2	13.1	54.4		92	10.0			4	PB							PB				
1009	63.0	42.6	46	53	1	12.8	54.7		94	10.0			4												
SERIES - 2																									
1973 STD. BLEND																									YS
601	61.9	38.0	36	61	3	12.6	51.4		95				4									MJ			
602	63.0	47.6	70	30	0	11.4	53.3		83				1									MJ			
603	63.0	41.2	44	54	2	11.0	52.8		85				2									MJ			
606	63.0	48.8	75	24	1	11.6	53.6		75				1									MJ			
	63.5	43.3	49	49	2	11.7	54.3		90				3									PB			
607 JORI 69																									
608	64.0	60.6	93	7	0	13.7	55.6		87				3									MN			
609	64.5	50.8	79	21	0	11.3	52.6		88				3									MN			
610	64.0	47.6	61	38	1	11.6	53.6		89				3									MN			
611	61.0	43.7	51	47	2	11.0	53.6		88				3									MN			
	62.5	49.0	78	21	1	12.1	53.6		85				2									MJ			
612	64.0	57.3	90	10	0	12.6	52.7		88				3									MN			
613	63.5	50.8	78	22	0	11.6	54.7		85				2									MJ			
614	62.5	50.0	74	25	1	11.0	51.9		75				1									MJ			
615	63.0	43.1	56	43	1	11.7	50.7		89				3									MN			
616	62.0	42.2	54	45	1	11.4	51.9		88				3									MN			
617																									
618	62.0	49.0	63	37	0	11.7	49.7		85				2						PB			MJ			
619	65.0	51.0	82	17	1	11.7	53.3		91				3									PB			
620	63.0	52.4	68	31	1	11.2	51.6		82				1									MJ			
	64.0	51.0	81	18	1	12.2	51.4		88				3									MN			
621	63.0	51.3	81	19	0	12.1	51.0		78				1									MJ			

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 1-

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=CALIFORNIA STATION=IMPERIAL-VALLEY NURSERY=PRELIMINARY -----

VARIETY	TW_KW	LG	MD	SM	PR	SEEX	SP	DU	VI_FR	RE_VAL	TW_KW	LG_SM	PR_MG	SP_DU	VI_FR	RE_SD
SERIES - 2 (CONT.)																
1973 STD. BLEND																
625	61.9	38.0	36	61	3	12.6	51.4	95		4						
626	59.0	44.1	60	39	1	11.8	45.7	70		1	MN		MJ		MJ	
803	61.5	35.7	35	63	2	12.6	52.2	90		3		PB			PB	
806	62.5	44.1	58	40	2	12.9	49.4	91		3			PB		PB	
	62.0	47.6	69	30	1	12.7	48.4	85		2			MN		MJ	
815	62.5	47.8	72	27	1	13.2	50.5	39		3					MN	
828	61.5	42.2	53	45	2	13.8	52.2	90		3					PB	
829	58.5	35.5	23	71	6	13.4	49.2	50		3	MN	PB	MN	PB	PB	
832	62.0	48.5	77	23	0	11.5	54.4	70		1					MJ	
836	60.0	40.8	31	64	5	13.4	50.5	89		3	PB	PB	PB		MN	
837	63.0	45.8	67	32	1	14.4	49.4	90		3			PB		PB	
905	63.0	42.4	53	43	4	13.4	52.5	89		3					MN	
913	64.0	40.8	44	54	2	13.1	52.4	86		2					MJ	
927	64.0	44.6	63	36	1	13.4	53.3	88		3					MN	
938	62.0	43.5	50	48	2	12.6	48.9	89		2			MN		MN	
939	63.0	44.1	62	37	1	13.3	49.7	91		3			PB		PB	
950	64.5	45.8	70	29	1	12.3	49.7	88		3			PB		MN	
953	63.0	45.5	68	30	2	13.4	48.6	91		3			MN		PB	
972	62.5	44.6	57	41	2	12.6	52.2	91		3					PB	
976	63.5	47.1	62	37	1	13.1	51.4	91		3					PB	
993	62.5	42.2	45	54	1	12.4	53.0	91		3					PB	
994	62.0	42.4	57	42	1	12.8	52.2	91		3					PB	
996	63.0	45.5	65	33	2	12.1	52.2	90		3					PB	
998	62.0	45.5	65	33	2	13.0	52.2	90		3					PB	
1003	61.5	44.4	60	39	1	12.7	55.8	90		3					PB	
1012	61.5	45.5	59	40	1	13.0	51.6	91		3					PB	
1014	63.0	41.8	47	51	2	12.5	53.6	91		3					PB	
1015	62.0	42.4	39	59	2	13.6	53.6	88		3					MN	
1016	62.5	43.1	49	49	2	12.6	53.0	89		3					MN	

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 15

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=CALIFORNIA STATION=IMPERIAL-VALLEY NURSERY=PRELIMINARY -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 1																									
1973 STD. BLEND																									
623 LEEDS	61.9	38.0	36	61	3	12.6	57.5		95	9.5			4												YS
604	64.0	38.8	43	56	1	12.3	52.4		95	10.0			3						MJ						
605	63.0	43.1	47	51	2	11.4	53.5		92	9.5			3						MN		PB				
622 WANGELL	64.0	43.1	49	51	C	11.8	56.3		93	9.5			4												
624 QUILAFEN	61.5	33.1	7	83	10	11.8	53.6		90	10.0			1		MN	MJ	MN		MJ		PB				
	62.0	47.4	52	37	1	12.0	51.4		96	9.5			3						MJ						
822	63.0	43.7	59	40	1	13.6	51.7		95	9.5			3						MJ						
902	59.5	35.3	26	69	5	14.0	52.0		94	10.0			3		PB		PB		MJ						
919	61.0	35.6	29	68	3	13.2	51.1		93	10.5			3			PB	PB		MJ						
942	61.5	37.0	23	72	5	13.4	51.1		93	9.5			3			PB	MN	PB	MJ						
962	63.5	43.9	59	40	1	12.9	48.1		96	10.5			1						MJ						
968	63.5	42.4	46	51	1	13.0	52.8		95	10.0			3						MJ						
970	63.0	43.1	51	47	2	12.8	51.4		92	10.0			3						MJ		PB				
974	63.0	43.7	54	45	1	13.3	51.9		92	10.0			3						MJ		PB				
982	62.0	38.3	49	48	3	13.1	50.3		95	10.0			1						MJ						
985	62.0	40.7	53	45	2	13.5	53.6		96	10.0			3						MJ						
999	60.0	42.7	49	49	2	13.5	51.9		92	9.5			3		PB				MJ		PB				
1002	62.0	42.6	43	55	2	13.1	54.4		92	10.0			3						MN		PB				
1009	63.0	42.6	46	53	1	12.8	54.7		94	10.0			3						MN						

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 16

DURUM QUALITY EVALUATION <sup>A/</sup>

1973 CROP

----- STATE=CALIFORNIA STATION=TULELAKE NURSERY=SPECIALS -----																										
VARIETY		-TW-	-KW-	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	-TW	_KW	_LG	_SM	_PR	_MG	_SP	_DU	_VI	_FR	_RE	SD
1973 STD.	BLEND	61.9	38.0	36	61	3	12.6	51.4		95	9.5	5.96	3.0	4												YS
TLD 701		65.0	45.7	67	32	1	12.4	59.8		94	10.0	5.35	6.1	4												PB

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 17

DURUM QUALITY EVALUATION <sup>A/</sup>

1973 CROP

----- STATE=WASHINGTON STATION=PULLMAN NURSERY=SPECIALS -----

VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
SERIES - 1																									
1973 STD. BLEND																									
WANDELL	61.9	38.0	36	61	3	12.6	51.4		95	9.5	5.96	3.0	4												
P 70N5059	63.0	36.4	18	79	3	11.8	52.1		92	9.5	5.04	3.6	3												
P 70N5122	62.9	51.8	85	15	0	13.7	51.6		92	8.0	8.27	5.7	2												
	62.2	38.8	31	67	2	13.2	54.0		94	9.5	5.99	5.6	4												
SERIES - 2																									
1973 STD. BLEND																									
P 70N5001	61.9	38.0	36	61	3	12.6	51.4		95				4												
P 70N5003	62.4	48.5	81	18	1	13.7	51.9		88				3												
P 70N5024	62.0	49.0	84	16	C	13.7	52.1		85				2												
P 70N5034	61.6	48.5	85	15	0	14.9	48.8		88				2												
	62.3	49.8	80	20	0	13.5	51.4		89				3												
P 70N5038	62.4	53.8	72	27	1	13.2	50.7		91				3												
P 70N5044	60.7	53.5	71	28	1	12.6	53.0		89				3												
P 70N5048	60.3	42.6	18	80	2	13.2	49.3		75				1	PB											
P 70N5094	60.9	46.5	71	29	0	14.4	51.9		80				1												
P 70N5099	62.6	49.3	74	26	0	14.5	50.2		85				2												
P 70N5101	62.6	50.5	85	15	0	15.1	50.7		90				3												
P 70N5104	61.2	62.9	93	7	0	15.4	50.5		85				2												
P 70N5106	61.5	61.7	94	6	0	15.2	51.4		86				2												
P 70N5109	63.3	56.8	85	15	0	14.6	53.0		87				3												
P 70N5111	63.4	57.8	89	11	0	14.8	52.8		88				3												
P 70N5112	63.7	54.1	73	26	1	14.3	52.8		88				3												
P 70N5113	63.3	59.5	92	8	0	14.0	53.2		89				3												
P 70N5114	63.1	61.0	90	9	1	14.5	53.2		88				3												
P 70N5117	63.6	53.2	86	14	0	14.8	51.9		88				3												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 18

DURUM QUALITY EVALUATION <sup>A/</sup>

1973 CROP

STATE=MINNESOTA STATION=CROOKSTON NURSERY=UNIFORM

VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	62.5	37.5	23	75	2	14.7	48.4		96				4												
WARD	61.5	41.5	27	71	2	15.0	47.6		96				4												YS
WELLS	61.0	26.2	3	77	20	15.4	43.7		95				1												YS
BOTTINEAU(D 6721)	62.0	39.5	19	78	3	15.3	47.6		93				4												YS
CROSBY(D 6715)	61.0	41.3	23	75	2	13.7	46.1		96				4												
HERCULES	60.5	42.4	42	57	1	15.0	45.5		92				3												
LAKOTA	57.0	32.4	7	79	14	14.4	43.7		96				3												PB
MINDUM	62.5	37.6	21	76	3	15.0	49.2		86				2												MJ
ROLETTE	62.0	44.1	37	61	2	15.7	48.4		93				4												
RUGBY(D 6722)	62.0	39.7	19	78	3	14.5	46.6		96				4												
WAKOOMA	60.0	37.0	12	83	5	14.6	46.0		94				4												
WASCANA	60.0	41.0	27	70	3	15.0	45.8		98				4												
D 6962	62.0	40.0	24	74	2	14.7	47.1		97				4												
D 6973	62.5	38.3	30	68	2	14.7	45.3		96				4												
D 7019	62.0	38.2	23	75	2	14.5	46.3		92				3												PB
D 7025	60.0	36.5	11	84	5	15.0	46.8		92				3												PB
D 7047	61.0	41.0	36	62	2	14.4	47.4		93				4												
D 7057	61.0	36.9	9	87	4	14.2	47.1		95				4												
D 7067	60.5	40.5	46	52	2	14.8	45.0		96				4												
D 7075	60.0	35.6	16	80	4	14.9	45.5		96				4												
D 7099	61.0	39.7	32	63	5	14.8	47.1		93				4												
D 70101	61.5	39.1	17	80	3	14.9	46.6		93				4												
DT 332	62.0	38.3	38	57	5	14.8	43.7		97				3												
MDS-5(D 71110)	60.5	38.0	23	73	4	14.7	47.1		93				4												
MDS-13(D 71117)	59.0	36.9	19	77	4	14.5	46.8		94				4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 19

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CRUP

STATE=MINNESOTA STATION=MORRIS NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS WARD WELLS BOTTINEAU(D 6721) CROSBY(D 6715)	63.0	41.5	39	59	2	15.1	47.2		95				4												YS
	62.0	40.7	27	71	2	15.0	46.0		96				4												YS
	62.0	30.7	7	85	8	14.6	46.3		55				3		MJ	MJ	PB							YS	
	62.5	40.5	37	62	1	14.5	47.5		96				4												
	61.0	37.3	19	79	2	15.5	44.4		55				3			PB				MN					
HERCULES LAKOTA MINDUM ROLETTE RUGBY(D 6722)	59.0	40.0	37	61	2	15.6	47.8		95				4		MN										
	60.5	34.5	15	78	7	14.4	45.0		55				3		PB					PB					
	63.0	37.3	25	72	3	14.8	47.5		87				3								MN				
	62.0	41.5	40	59	1	15.1	48.1		94				4												
	61.5	38.8	21	76	3	15.0	46.6		57				4												
WAKOOMA WASCANA D 6962 D 6973 D 7019	61.0	37.0	10	87	3	14.9	46.0		96				3			MJ									
	60.5	39.7	27	71	2	15.0	44.4		57				3		PB					MN					
	61.5	34.8	13	83	4	15.3	46.3		57				4			PB	MN								
	62.0	39.2	35	63	2	15.1	44.7		93				4							PB					
	62.5	41.0	28	69	3	14.8	47.2		93				4												
D 7025 D 7047 D 7057 D 7067 D 7075	59.5	35.5	11	83	6	15.3	45.4		95				4		MN										
	60.5	34.6	11	84	5	14.8	47.5		96				4		PB	MN									
	60.0	33.4	13	79	8	14.7	49.7		56				4		PB	MN									
	60.5	38.3	18	81	1	15.0	46.8		96				4												
	61.0	37.7	51	48	1	15.0	46.6		56				4												
D 7099 D 70101 DT 332 MDS-5(D 71110) MDS-13(D 71117)	61.0	36.0	23	74	3	14.9	48.1		94				4			PB									
	62.0	40.3	39	59	2	14.9	48.1		92				3												PB
	61.0	38.9	38	59	3	14.7	44.2		96				3							MN					
	61.0	38.0	20	77	3	15.1	46.3		96				4												
	61.5	40.7	35	62	3	15.0	46.3		95				4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 20

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

STATE=MINNESOTA STATION=CROOKSTON--MORRIS NURSERY=UNIFORM -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW	_KW	LG	_SM	_PR	_MG	_SP	_DU	_VI	_FR	_RE	SD
UNIFORM BLEND																									
LEEDS(BLD.)	62.8	39.5	31	67	2	14.9	47.8		96	9.5			4												YS
WARD(BLD.)	61.8	41.4	27	71	2	15.0	46.8		96	9.5			4												YS
WELLS(BLD.)	61.5	28.5	5	81	14	15.0	45.0		95	9.5			3		MJ	MJ	MJ		PB						YS
BOTTINEAU(BLD.)	62.3	40.0	28	70	2	14.9	47.6		95	10.0			4												
CROSBY(BLD.)	61.0	39.3	21	77	2	14.6	45.3		96	10.0			4						PB						
HERCULES(BLD.)	59.8	41.2	40	58	2	15.3	46.7		94	9.5			4		PB										
LAKOTA(BLD.)	58.8	33.5	11	78	11	14.4	44.4		96	9.5			3		MN	MN	MN		MN						
MINDUM(BLD.)	62.8	37.5	23	74	3	14.9	48.4		87	9.0			3								MN	PB			
ROLETTE(BLD.)	62.0	42.8	39	59	2	15.4	48.3		94	9.5			4												
RUGBY(BLD.)	61.8	39.3	20	77	3	14.8	46.6		97	10.5			4												
WAKOOMA(BLD.)	60.5	37.0	11	85	4	14.8	46.0		95	9.5			4		PB										
WASCANA(BLD.)	60.3	40.4	27	70	3	15.0	45.1		98	10.0			4		PB				PB						
D 6962(BLD.)	61.8	37.4	19	78	3	15.0	46.7		97	10.5			4												
D 6973(BLD.)	62.3	38.8	33	65	2	14.9	45.0		95	10.0			4						PB						
D 7019(BLD.)	62.3	39.6	26	71	3	14.7	46.8		93	10.0			4												
D 7025(BLD.)	59.8	36.0	11	83	6	15.2	46.1		94	10.0			4		PB										
D 7047(BLD.)	60.8	37.8	24	72	4	14.6	47.5		95	10.0			4				MN								
D 7057(BLD.)	60.5	35.2	11	83	6	14.5	48.4		96	10.0			4			PB	MN								
D 7067(BLD.)	60.5	39.4	32	66	2	14.9	45.9		96	10.0			4		PB										
D 7075(BLD.)	60.5	36.7	34	63	3	15.0	46.1		96	10.0			4		PB										
D 7099(BLD.)	61.0	37.9	28	68	4	14.9	47.6		94	10.0			4												
D 70101(BLD.)	61.8	39.7	28	69	3	14.9	47.4		93	9.5			4												
DT 332(BLD.)	61.5	38.6	38	58	4	14.8	44.0		97	9.5			3						MN						
MDS-5(BLD.) a/	60.8	38.0	22	74	4	14.9	46.7		95	9.5			4												
MDS-13(BLD.) b/	60.3	38.8	27	69	4	14.8	46.6		95	9.5			4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.<sup>a/</sup> D 71110<sup>b/</sup> D 71117



TABLE 21

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

STATE=MONTANA STATION=SIDNEY NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS WARD WELLS BOTTINEAU(D 6721) CROSBY(D 6715)	62.0	34.6	15	83	2	14.6	55.6		96				4												YS
	61.0	36.8	15	82	3	14.0	54.2		97				4												YS
	60.0	27.9	4	88	8	13.5	53.7		94				4		MN	PB	PB							YS	
	62.0	35.8	16	81	3	14.0	56.3		94				4												
	60.5	33.3	9	86	5	13.9	54.9		95				4												
HERCULES MINDUM RUGBY(D 6722) ROLETTE WAKOOMA	61.0	36.5	31	67	2	14.1	54.9		92				3								PB				
	61.0	31.6	6	89	5	14.8	55.9		90				3		PB	PB					PB				
	61.0	35.1	11	85	4	13.7	55.1		97				4												
	62.5	39.5	36	62	2	15.0	55.8		90				3								PB				
	61.0	33.8	6	90	4	13.6	53.8		95				4								PB				
WASCANA D 6962 D 6973 D 7019 D 7025	59.5	33.6	12	85	3	14.0	53.7		98				4								PB				
	63.0	35.8	15	83	2	14.0	55.6		98				4												
	63.0	36.6	30	68	2	13.3	55.3		95				4												
	63.5	32.9	6	90	4	12.9	55.8		96				4				PB								
	61.0	33.9	10	84	6	13.3	55.3		95				4					PB							
D 7047 D 7057 D 7067 D 7075 D 7099	62.5	35.1	12	84	4	13.0	56.1		98				4												
	61.0	32.6	4	90	6	13.1	54.4		97				4				PB	PB							
	61.5	38.3	33	65	2	14.0	55.7		97				4												
	61.5	37.7	26	72	2	13.6	55.3		96				4												
	62.0	36.2	10	87	3	12.8	55.8		94				4												
D 70101 DT 332 MDS-5(D 71110) MDS-13(D 71117)	62.0	38.2	24	74	2	13.3	56.5		94				4												
	59.5	34.1	16	81	3	13.9	53.0		97				4		PB				PB						
	61.0	35.7	13	83	4	13.9	55.1		95				4												
	61.5	36.6	20	76	4	13.5	56.5		96				4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

STATE=NORTH_DAKOTA STATION=CARPINGTON NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	62.0	40.5	49	49	2	15.0	46.8		94	10.0			4												YS
WARD	61.0	45.5	51	46	3	14.2	48.1		91	9.5			4												YS
WELLS	62.0	38.2	41	55	4	14.1	48.2		91	9.5			4		MN	PB									YS
BOTTINEAU(D 6721)	61.5	43.3	49	48	3	14.3	48.4		92	9.5			4												
CROSBY(D 6715)	60.5	45.2	49	48	3	13.9	47.4		94	9.5			4												
HERCULES	61.5	48.8	64	33	3	14.1	50.3		91	9.0			4												
MINDUM	62.0	42.9	55	43	2	14.5	48.2		90	9.0			4												PB
ROLETTE	61.5	45.5	59	39	2	14.3	47.9		89	9.0			3												PB
RUGBY(D 6722)	62.0	45.0	55	42	3	14.2	50.3		93	9.5			4												PB
WAKJOMA	60.5	41.8	43	55	2	14.6	45.9		92	9.5			4												
WASCANA	61.0	47.8	72	27	1	14.6	48.7		94	9.5			4												
D 6962	62.0	42.7	53	45	2	14.0	48.2		93	10.0			4												
D 6973	63.0	44.1	64	35	1	13.5	46.4		91	9.0			3												
D 7019	63.0	40.0	41	56	3	13.3	48.9		93	10.0			4		PB	PB									PB
D 7025	61.0	41.2	39	57	4	13.4	51.3		92	9.5			4			PB									
D 7047	61.0	37.6	36	60	4	14.0	49.2		94	10.0			4		MN	MN									
D 7057	60.0	36.4	25	70	5	13.5	48.2		95	10.0			1		PB	MJ									PB
D 7067	62.5	44.8	69	30	1	13.9	48.4		90	10.0			4												
D 7075	60.0	40.0	57	41	2	14.9	48.2		91	10.0			4		PB										
D 7099	61.5	40.0	37	60	3	13.4	47.6		92	9.5			4		PB	MN									
D 70101	62.0	45.7	58	40	2	13.6	48.9		91	9.5			4												
DT 332	62.5	50.5	70	28	2	14.0	49.5		95	9.5			4												
MDS-5(D 71110)	61.5	44.2	57	40	3	14.3	48.2		93	9.5			4												
MDS-13(D 71117)	60.5	43.1	46	51	3	14.4	48.4		92	9.5			4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 23

DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

STATE=NORTH_DAKOTA STATION=DICKINSON NURSERY=UNIFORM													
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL
LEEDS	62.0	42.7	24	74	2	16.4	48.8		96				4
WARD	61.0	43.1	26	70	4	15.9	46.5		95				4
WELLS	60.5	35.0	7	86	7	15.9	47.1		94				4
BOTTINEAU(D 6721)	61.0	40.8	21	75	4	15.6	48.8		95				4
CROSSBY(D 6715)	60.0	38.8	16	80	4	15.4	46.5		93				4
HERCULES	61.0	43.7	32	66	2	14.9	47.4		92				3
MINDUM	62.0	38.9	21	76	3	15.6	49.1		90				3
ROLETTE	62.0	43.7	25	71	4	15.1	48.4		92				3
RUGBY(D 6722)	61.5	41.3	29	68	3	15.0	46.8		95				4
WAKJOMA	61.0	41.2	11	85	4	14.9	47.0		92				3
WASCANA	60.5	45.7	45	52	3	15.5	46.5		97				4
D 6962	62.0	47.4	65	33	2	14.8	48.4		96				4
D 6973	62.0	42.0	36	62	2	14.9	46.6		95				4
D 7019	63.0	38.5	19	78	3	15.0	46.6		95				4
D 7025	60.0	36.2	9	87	4	15.4	46.6		93				4
D 7047	62.0	40.2	23	74	3	14.6	48.9		96				4
D 7057	61.0	35.3	7	90	3	14.3	46.8		95				4
D 7067	60.5	38.8	33	66	1	14.8	44.4		94				3
D 7075	60.0	36.8	24	73	3	15.8	45.0		96				3
D 7099	61.0	38.8	19	78	3	14.5	50.3		92				3
D 70101	62.0	45.0	59	39	2	15.0	47.3		90				3
DT 332	61.5	42.4	39	58	3	14.9	46.8		97				4
MDS-5(D 71110)	60.5	40.2	19	75	6	15.8	46.1		94				4
MDS-5(D 71113)	60.5	40.5	19	75	6	15.8	46.1		94				4
MDS-13(D 71117)	60.5	38.8	24	72	4	15.8	40.7		95				1

PB

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<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=NORTH_DAKOTA STATION=WILLISTON NURSERY=UNIFORM -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS WARD WELLS BOTTINEAU(D 6721) CROSBY(D 6715)	62.5	34.0	19	77	4	17.2	54.3		95	9.5			4					MN							YS
	61.0	33.3	10	83	7	16.6	53.2		96	9.5			4											YS	
	61.0	32.3	10	77	13	16.8	52.7		92	9.5			4		PB		MN							YS	
	62.0	37.3	12	85	3	16.3	56.1		93	9.5			4												
	60.5	34.8	10	82	8	16.6	53.5		93	9.5			4												
HERCULES MINDUM ROLETTE RUGBY(D 6722) WAKOUMA	60.0	26.8	21	74	5	16.7	52.9		91	9.0			3	PB	MJ						PB	PB			
	61.5	35.3	5	91	4	16.9	55.3		87	8.5			3			PB					MN	MN			
	62.5	37.0	12	86	2	16.5	56.4		91	9.5			4								PB				
	61.5	38.6	11	84	5	15.7	54.5		55	9.5			4												
	61.0	36.5	7	89	4	16.7	52.9		55	9.5			4				PB								
WASCANA D 6962 D 6973 D 7019 D 7025	59.5	34.8	19	76	5	16.9	52.7		98	10.0			4			PB									
	61.5	38.5	11	81	8	16.1	54.2		96	9.5			4												
	62.0	34.1	15	80	5	16.4	52.1		94	9.5			4												
	62.0	33.6	7	83	10	16.0	54.5		95	9.5			4				PB	PB							
	61.5	36.0	15	78	7	16.5	55.1		93	9.0			4										PB		
D 7047 D 7057 D 7067 D 7075 D 7099	61.5	24.9	11	80	9	15.5	55.6		96	9.5			3		MJ										
	61.0	33.3	9	82	9	15.3	53.7		94	9.5			4												
	61.0	33.6	18	79	3	16.7	54.2		96	9.5			4												
	60.0	32.3	11	84	5	16.3	54.0		52	9.5			4		PB								PB		
	62.0	35.8	15	78	7	15.9	54.5		91	9.5			4												
D 70101 DT 332 MDS-5(D 71110) MDS-13(D 71117)	61.5	37.6	17	78	5	16.5	54.1		91	9.5			4										PB		
	60.0	35.5	23	72	5	16.5	52.1		57	9.5			4		PB										
	61.5	34.5	15	78	7	16.5	54.5		92	9.5			4												
	61.5	36.1	20	74	6	16.3	54.5		93	9.5			4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=MONTANA-NORTH_DAKOTA STATION=SIDNEY-DICKINS JN NURSERY=UNIFORM -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
UNIFORM BLEND																									
LEEDS(BLD.)	62.0	38.7	20	78	2	15.5	52.2		96	9.5			4												YS
WARD(BLD.)	61.0	40.0	21	75	4	15.0	50.4		96	9.5			4												YS
WELLS(BLD.)	60.3	31.5	6	86	8	14.7	50.4		94	9.5			4			MN	MN	PB						YS	
BOTTINEAU(BLD.)	61.5	38.3	19	77	4	14.8	52.6		95	9.5			4												
CROSBY(BLD.)	60.3	36.1	13	82	5	14.7	50.7		94	9.5			4												
HERCULES(BLD.)	61.0	41.0	32	66	2	14.5	51.2		92	9.0			3							PB	PB				PB
MINDUM(BLD.)	61.5	35.3	14	82	4	15.2	52.5		90	9.0			3			PB				PB	PB				PB
POLLETTE(BLD.)	62.3	41.6	31	66	3	15.1	52.1		91	9.5			4							PB					
RUGBY(BLD.)	61.3	38.2	20	76	4	14.4	51.0		96	9.5			4												
WAKOOMA(BLD.)	61.0	37.5	9	87	4	14.2	50.4		94	9.5			4			PB									
WASCANA(BLD.)	60.0	39.7	29	68	3	14.8	50.1		98	9.5			4												
D 6962(BLD.)	62.5	41.6	40	58	2	14.4	52.0		97	9.5			4												
D 6973(BLD.)	62.5	39.3	33	65	2	14.1	51.0		95	9.0			4								PB				
D 7019(BLD.)	63.3	35.7	13	83	4	14.0	51.2		96	9.5			4			PB									
D 7025(BLD.)	60.5	35.1	10	85	5	14.4	51.0		94	9.5			4			PB	PB								
D 7047(BLD.)	62.3	37.7	18	78	4	13.8	52.5		97	9.5			4												
D 7057(BLD.)	61.0	34.0	6	89	5	13.7	50.6		96	9.5			4			PB	MN								
D 7067(BLD.)	61.0	38.6	33	65	2	14.4	50.1		96	9.5			4												
D 7075(BLD.)	60.8	37.3	25	72	3	14.7	50.2		96	9.5			4												
D 7099(BLD.)	61.5	37.5	15	82	3	13.7	53.1		93	9.0			4												PB
D 70101(BLD.)	62.0	41.6	42	56	2	14.2	51.9		92	9.0			3							PB	PB				
DT 332(BLD.)	60.5	38.3	28	69	3	14.4	49.9		97	9.5			4												
MDS-5(BLD.) a/	60.8	38.0	16	79	5	14.9	50.6		95	9.5			4												MN
MDS-13(BLD.) b/	61.0	37.7	22	74	4	14.7	48.6		96	9.5			3												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.<sup>a/</sup> D 71110<sup>b/</sup> D 71117



DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

----- STATE=SOUTH_DAKOTA STATION=REDFIELD NURSERY=UNIFORM -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	63.0	44.8	69	29	2	13.5	47.2		93	10.0			4												YS
WARD	62.5	45.0	60	37	3	11.7	47.6		93	10.0			4												YS
WELLS	64.0	40.0	50	47	3	11.5	46.6		90	9.5			4			PB	MN								YS
BOTTINEAU(D 6721)	62.5	44.2	65	32	3	11.6	49.1		90	10.0			4												
CROSBY(D 6715)	63.0	43.3	57	42	1	11.9	47.9		91	9.5			4												
HERCULES	62.0	46.3	65	34	1	13.1	47.9		90	9.0			4												PB
MINDUM	63.5	44.6	69	30	1	12.9	49.1		87	8.0			3						PB						MJ
ROLETTE	64.0	45.7	67	31	2	12.2	51.2		90	9.5			4												
RUGBY(D 6722)	63.0	44.8	64	34	2	12.3	47.9		91	9.5			4												
WAKOCMA	63.0	47.6	56	43	1	12.4	47.8		90	9.0			4												PB
D 6962	63.0	43.9	61	37	2	12.3	47.2		91	10.0			4												
D 6973	63.5	47.1	71	27	2	12.2	47.3		90	9.0			4												PB
D 7019	63.0	46.1	59	39	2	12.0	46.3		90	9.0			4												PB
D 7025	63.0	49.8	67	31	2	11.8	51.5		89	8.5			3							PB					MN
D 7047	63.0	45.5	58	39	3	11.6	51.9		90	9.0			4												PB
D 7057	62.5	43.3	57	40	3	11.7	49.2		90	9.0			4												PB
D 7067	63.0	42.7	59	40	1	11.9	50.7		93	9.5			4												
D 7075	61.5	41.7	57	41	2	13.1	50.0		92	9.5			4			PB									
D 7099	62.0	46.7	67	30	3	10.9	48.8		90	9.0			4												PB
D 70101	63.0	47.1	62	36	2	11.9	51.5		90	9.0			4												PB
DT 332	62.5	46.7	65	34	1	12.3	47.9		94	10.0			4												
MDS-5(D 71110)	63.0	44.2	62	35	3	11.8	49.3		92	9.5			4												
MDS-13(D 71117)	62.5	45.8	63	35	2	11.5	48.8		90	9.5			4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



DURUM QUALITY EVALUATION<sup>A/</sup>

1973 CROP

TABLE 27

STATE=WASHINGTON STATION=PULLMAN NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	62.7	45.0	71	27	2	15.8	47.6		94	10.0			4												YS
WARD	62.7	50.8	77	22	1	14.2	46.1		92	9.5			4												YS
WELLS	62.7	41.7	52	43	5	14.9	46.3		92	9.0			3												YS
BOTTINEAU(D 6721)	62.2	48.1	72	26	2	15.0	48.2		91	10.0			4												
CROSBY(D 6715)	61.8	46.7	72	26	2	14.5	48.2		92	10.0			4												
HERCULES	62.3	50.8	81	18	1	15.4	49.7		92	9.5			4												
MINDUM	61.3	49.5	70	28	2	15.2	48.4		88	8.5			3												
ROLETTE	63.2	51.3	81	18	1	15.6	47.1		92	9.0			4												
RUGBY(D 6722)	62.7	49.3	74	25	1	14.7	47.2		93	9.5			4												
WANDELL	61.7	42.9	36	58	6	13.1	48.1		91	10.0			1												
WASCANA	61.2	55.2	81	18	1	14.7	47.2		97	9.5			4												
WAKOOMA(DT 316)	60.3	49.0	65	33	2	15.3	47.9		91	10.0			4												
D 692	62.5	47.1	70	29	1	14.5	47.9		95	10.0			4												
D 6676	62.6	47.6	73	25	2	15.2	47.5		95	10.0			4												
D 6714	62.0	50.8	73	25	2	14.4	48.4		93	10.0			4												
D 6733	63.1	47.6	72	27	1	14.2	48.9		91	10.0			4												
D 6761	62.6	51.3	74	25	1	14.4	46.3		92	10.0			4												
D 6915	63.0	48.3	75	24	1	13.4	48.2		91	10.0			4												
D 6962	63.1	49.5	74	25	1	14.3	47.5		93	10.0			4												
D 6973	64.0	50.8	79	20	1	14.3	47.2		90	9.5			4												
D 7057	63.0	48.3	71	27	2	13.3	48.2		93	10.5			4												
D 7067	62.8	47.8	76	22	2	15.3	47.2		92	10.0			4												
D 7075	61.9	49.8	69	30	1	15.0	46.6		93	9.5			4												
D 70101	63.5	55.6	83	16	1	14.0	49.5		91	10.0			4												
DT 332	62.5	52.9	85	14	1	15.1	48.2		95	9.5			4												

A/ See Table 1 for explanation of abbreviations and symbols.



TABLE 28

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=OREGON STATION=PENDELTON NURSERY=ADVANCED																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	CU	_VI_	_FF_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110	8.0	6.30	3.4	4												YS
CRANE "B"	61.0	35.3	43	55	2	12.7	44.0		90	7.0	7.35	3.4	1												
MANDELL	62.5	30.8	14	79	7	12.2	52.5		105	8.5	6.23	8.6	3		MN	MJ	MN								MN
D7114	63.0	35.0	41	50	3	12.0	49.0		90	8.0	7.11	7.0	1												
MD000136	64.0	34.6	55	43	2	12.0	50.5		85	7.5	7.17	5.3	1												
ND66151	62.0	36.1	43	53	4	13.5	50.0		110	8.0	6.03	3.1	4				PB								MN
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110				4												YS
COCORIT 71	62.5	43.3	69	29	2	11.5	52.0		75				1												MJ

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 29

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=SOUTH_DAKOTA STATION=BISON NURSERY=ADVANCED -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	_SD_
CROSBY	58.0	26.3	1	84	15	18.7	54.0		115				3		PB		PB				PB				YS
WARD	58.5	29.9	2	87	11	18.6	53.0		125				4												YS
BOTNO	60.5	29.5	1	88	11	18.7	55.0		120				4												
HERCULES	59.0	31.3	3	94	3	18.6	55.5		110				2								MJ				
LEEDSa/		29.3																							
POLETTE	60.5	32.6	2	93	5	18.7	56.0		115				3								PB				
DUGBYa/		29.3																							
WASCANA	56.0	23.5	1	88	11	18.1	55.0		130				4		PB										
WELLSa/	57.0	24.8																							

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.<sup>a/</sup> Insufficient sample.



TABLE 30

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=WASHINGTON STATION=ROYAL_SLOPE NURSERY=ADVANCED -----																										
VARIETY	_TW_	_KW_	LG	MD	SV	_PR_	SFEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PF_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD	
1974 STD. GERARDO 565 GERARDO 574 QUILAFEN MANDELL	58.8	35.1	31	67	2	14.1	40.8		110	8.0	6.30	3.4	4												YS	
	62.5	52.6	82	18	0	11.9	47.0		80	7.0	6.63	9.0	1												MN	
	61.5	39.5	54	45	1	12.8	46.0		110	8.0	5.43	10.7	3												MJ	
	64.0	42.0	62	37	1	11.5	46.5		115	9.0	6.81	16.2	1												MJ	
	64.0	39.4	41	55	4	11.8	48.0		110	8.5	5.53	10.0	3				PB								MJ	
10000080 10000093 AC06026 AC06027 AC06029	63.0	34.1	14	79	7	11.0	48.0		105	8.5	5.23	7.2	3			PB	MJ	MN			PB					PB
	65.0	37.5	56	42	2	12.1	46.0		105	8.5	6.31	11.4	3													PB
	64.5	42.6	59	38	3	13.1	51.0		105	8.0	6.13	11.5	3													PB
	65.0	38.3	52	47	1	11.7	47.0		115	9.0	5.51	6.5	4													MJ
	64.5	35.2	54	45	1	11.8	47.0		125	9.5	5.53	6.7	4													MJ
T7305089 T7205021 T7305003 T7305024 T7305027	62.5	31.6	10	82	8	11.4	47.0		110	8.5	6.27	7.1	1			MN	MJ	MN								
	62.0	44.8	80	20	0	11.5	49.0		115	8.0	5.41	6.7	4													
	64.0	37.3	44	54	2	11.4	46.0		125	9.5	5.47	6.8	4													
	64.0	32.7	16	77	7	10.5	46.0		105	9.0	5.63	9.0	3			PB	MJ	MN			PB				MN	
	63.5	28.8	5	86	5	11.8	44.0		105	8.5	6.13	9.3	1			MJ	MJ	MN			PB				MN	
T7305029 T7305045 T7305052 T7305056 T7305057	65.0	31.9	18	76	6	11.4	47.0		105	8.5	5.79	10.7	3			MN	MN	PB			PB					MJ
	65.0	34.0	19	76	5	11.3	46.5		105	8.5	6.07	7.6	4			PB	MN	PB			PB					MN
	61.5	34.2	20	74	6	11.9	47.0		110	8.0	5.65	8.2	4			PB	MN	PB			PB				MN	
	62.5	30.3	8	84	8	11.6	46.0		115	9.0	5.81	6.8	1			MN	MJ	MN							MN	
	63.0	31.2	14	73	8	11.8	44.5		105	9.0	5.89	10.0	3			MN	MJ	MN			PB				MJ	
T7305148 T7305154	63.5	37.6	35	63	2	11.1	48.5		125	10.0	5.25	9.5	4													MN
	63.5	35.6	42	56	2	11.1	47.0		125	10.0	5.53	3.5	4													MN

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 31 DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CRUP

STATE=WASHINGTON STATION=ROYAL_SLOPE NURSERY=ADVANCED																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DJ	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110				4												
T7205038	62.0	32.2	16	77	7	11.7	47.5		105				3		MN	MJ	MN				PB				YS
T7205022	62.0	43.9	78	22	0	11.5	49.0		110				4												
T7305058	64.0	32.2	7	85	8	11.3	46.5		105				1		MN	MJ	MN				PB				
T7305162	64.5	38.6	60	39	1	12.7	46.5		105				3								PB				
T7305164	64.0	38.3	54	44	2	13.7	46.5		105				3								PB				
T7305170	64.5	35.3	51	48	1	12.8	43.5		115				4												
T7305176	63.5	38.2	52	46	2	13.0	48.5		105				3								PB				
T7305177	63.5	38.8	59	40	1	12.4	47.5		110				4												
T7305181	64.0	39.4	56	42	2	12.9	46.5		105				3								PB				
T7305182	63.5	44.6	73	26	1	13.2	50.0		95				1								MJ				
T7305186	64.5	40.3	72	27	1	11.2	48.0		115				4												
T7305217	63.0	38.2	43	53	4	10.5	48.5		115				4				PB								
T7305218	64.0	48.3	79	21	0	13.5	47.0		105				3								PB				
T7305219	65.0	51.5	84	16	0	13.0	48.5		105				3								PB				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 32

DJRUM QUALITY EVALUATION<sup>A/</sup>

1974 CRUP

STATE=CALIFORNIA STATION=DELTA NURSERY=FIELD-PLOT

VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	55.6	30	55	9.5	6.37	5.3	4												
COCORIT 71	63.7	54.6	78	20	2	12.7	58.2	20	60	6.0	6.03	5.5	1								MJ	MJ			YS
CRANE B	62.9	50.3	75	23	2	13.6	58.2	20	66	6.0	6.75	4.4	1								MJ	MJ			PB
LEEDS	61.6	35.1	49	50	1	15.3	55.1	23	56	9.0	6.63	4.4	3									PB	PB		PB
466/F1	61.7	46.5	67	32	1	15.0	54.5	17	58	9.0	5.86	1.4	4									PB			
466/E2	62.7	38.5	43	55	2	14.1	55.4	20	55	9.5	5.79	4.7	4												
466/E4	63.6	45.8	70	28	2	12.9	56.8	23	88	9.0	7.14	3.8	3								MN	PB			MN
466/E5	63.9	50.5	76	23	1	14.8	58.0	17	54	9.5	8.19	4.8	3												MJ
466/E7	64.3	46.1	62	38	0	13.9	57.7	20	100	9.5	6.05	4.4	4												
466/F8	64.2	48.8	74	25	1	13.9	56.8	20	68	9.0	5.49	4.1	4								MN	PB			
466/E10	64.0	50.8	75	23	2	14.1	56.0	20	56	9.5	7.99	0.1	3												MJ
466/F11	63.6	48.3	66	34	0	14.6	58.4	27	51	9.0	4.78	0.1	4								PB	PB			
466/E12	62.6	45.0	68	32	0	14.6	57.4	23	91	9.0	6.99	0.1	3								PB	PB			PB
466/E14	62.6	45.5	49	49	2	13.7	59.5	30	87	8.5	5.54	0.2	3								MN	MN			MN
466/F15	64.1	51.5	76	23	1	14.9	57.2	23	91	9.0	7.17	1.1	3								PB	PB			
466/F16	63.0	54.9	72	26	2	14.5	59.6	20	85	8.0	7.34	3.3	3								MJ	MJ			MN
ND 6655	63.0	44.2	47	52	1	13.7	59.9	20	91	9.0	6.18	5.7	4								PB	PB			

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 33

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=CALIFORNIA STATION=DELTA NURSERY=FIELD-PLOT

VARIETY	TW	KW	LG	MD	SM	PR	SEEX	SP	DU	VI	FR	RE	VAL	TW	KW	LG	SM	PR	MG	SP	DU	VI	FR	RE	SD
LEEDS	61.6	35.1	49	50	1	15.3	55.1	23	96	9.0	6.63	4.4	4												
COCORIT 71	63.7	54.6	78	20	2	12.7	58.2	20	60	6.0	6.03	5.5	1								MJ	MJ		PB	YS
CRABE B	62.9	50.3	75	23	2	13.6	58.2	20	68	6.0	6.75	4.4	1								MJ	MJ		PB	
466/E1	61.7	46.5	67	32	1	15.2	54.5	17	98	9.0	5.86	1.4	4												
466/E2	62.7	33.5	43	55	2	14.1	55.4	20	95	9.5	5.79	4.7	4												PB
466/E4	63.6	45.8	70	28	2	12.9	56.8	23	83	9.0	7.14	3.8	3								MN				MN
466/E5	63.9	50.5	76	23	1	14.8	58.0	17	94	9.5	8.19	4.8	3												MJ
466/E7	64.3	46.1	62	38	0	13.9	57.7	20	100	9.5	6.05	4.4	6												
466/E8	64.2	48.8	74	25	1	13.9	56.8	20	88	9.0	5.49	4.1	4								MN				
456/E10	64.0	50.8	75	23	2	14.1	56.0	20	96	9.5	7.99	0.1	3												MJ
466/E11	63.6	48.3	66	34	0	14.6	58.4	27	91	9.0	4.78	0.1	4								PB				
466/E12	62.6	45.0	68	32	0	14.6	57.4	23	91	9.0	6.99	0.1	4								PB				PB
466/E14	62.6	45.5	49	49	2	13.7	59.9	30	87	8.5	5.54	0.2	3						MN		MJ	PB			
466/E15	64.1	51.5	76	23	1	14.9	57.2	23	91	9.0	7.17	1.1	3								PB				MN
466/E16	63.0	54.9	72	26	2	14.5	59.6	20	85	8.0	7.34	3.3	3								MJ	MN			MN
ND 6655	63.0	44.2	47	52	1	13.7	59.9	20	91	9.0	6.13	5.7	4								PB				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 34

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=CALIFORNIA STATION=IMPERIAL-VALLEY NURSERY=FIELD-PLOT -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	--TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	55.6	30	95	9.5	6.37	5.3	4							MN					YS
CISNE 'S'	61.5	49.2	65	32	3	12.4	57.2	27	60	6.0	5.23	5.5	1								MJ	MJ			
COCORIT 71	61.8	53.5	66	30	4	12.2	57.5	43	60	6.0	6.05	5.9	1				PB			MJ	MJ	MJ			
CRANE 9	62.8	50.8	77	21	2	12.8	59.5	30	65	6.0	6.13	3.4	1							MN	MJ	MJ			
CRANF 'S'	61.7	57.1	70	29	1	12.7	58.3	37	70	7.5	5.57	3.2	1							MJ	MJ	MJ			
LEEDS	63.1	43.5	48	50	2	14.6	56.1	40	93	9.0	4.52	4.9	3							MJ					
ND 6655	63.4	42.7	46	52	2	12.0	57.3	23	90	9.0	4.96	4.0	4								PB	PB			
IV 73-803	63.2	44.1	65	33	2	13.5	58.4	27	90	9.0	5.70	6.0	4								PB	PB			
IV 73-808	61.6	46.5	61	37	2	13.5	58.7	33	75	8.0	6.14	4.7	1						MN		MJ	MJ			
IV 73-815	63.2	47.4	66	32	2	12.7	56.7	23	80	8.5	5.49	4.1	1								MJ	MN			
IV 73-822	63.7	42.0	55	43	2	13.0	57.8	30	92	9.0	5.22	3.7	4								PB	PB			
IV 73-836	61.8	43.1	46	49	5	12.4	60.2	43	78	8.5	4.88	4.9	1				PB			MJ	MJ	MN			
27534-1M-1Y-1M-0Y	64.2	47.4	73	24	3	12.9	57.3	27	89	9.0	5.42	5.0	4								MN	PB			
27547-1M-1Y-4M-1Y-0M	63.6	50.8	80	18	2	12.0	57.8	27	65	7.0	6.06	6.8	1								MJ	MJ			
27591-53M-3Y-2M-1Y-0M	62.9	50.0	75	23	2	13.4	58.3	27	70	7.5	6.14	6.4	1								MJ	MJ			

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 35

DURUM QUALITY EVALUATION<sup>A/</sup> 1974 CROP

----- STATE=CALIFORNIA STATION=IMPERIAL-VALLEY NURSERY=FIELD-PLOT -----																									
VARIETY	_TW_	_KW_	_LG_	_MD_	_SM_	_PR_	_SEEX_	_SP_	_DU_	_VI_	_FR_	_PF_	_VAL_	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_PF_	_SD_
LFEDS	63.1	43.5	48	50	2	14.6	56.1	40	93	9.0	4.52	4.9	3							MJ					YS
CISNE 'S'	61.5	49.2	65	32	3	12.4	57.2	27	60	6.0	5.23	5.5	1	PB							MJ	MJ			
COCORIT 71	61.8	53.5	66	30	4	12.2	57.5	43	60	6.0	6.05	5.9	1				PB			MJ	MJ	MJ			
CRANE B	62.8	50.8	77	21	2	12.8	59.5	30	65	6.0	6.13	3.4	1							MN	MJ	MJ			
CRANE 'S'	61.7	57.1	70	29	1	12.7	58.3	37	70	7.5	5.57	3.2	1							MJ	MJ	MJ			
ND 6655	63.4	42.7	46	52	2	12.0	57.3	23	90	9.0	4.96	4.0	4								PB				
IV 73-803	63.2	44.1	65	33	2	13.5	58.4	27	90	9.0	5.70	6.0	4								PB				
IV 73-808	61.6	46.5	61	37	2	13.5	58.7	33	75	8.0	6.14	4.7	1	PB						MN	MJ	MN			
IV 73-815	63.2	47.4	66	32	2	12.7	56.7	23	80	8.5	5.49	4.1	1							MJ	MJ	PB			
IV 73-822	63.7	42.0	55	43	2	13.0	57.8	30	92	9.0	5.22	3.7	4			PB				MN					
IV 73-836	61.8	43.1	46	49	5	12.4	60.2	43	78	3.5	4.88	4.9	1				PB			MJ	MJ	PB			
27534-1M-1Y-1M-OY	64.2	47.4	73	24	3	12.9	57.3	27	89	9.0	5.42	5.0	4								PB				
27547-1M-1Y-4M-1Y-OM	63.6	50.8	80	18	2	12.0	57.8	27	65	7.0	6.06	6.8	1								MJ	MJ			
27591-53M-3Y-2M-1Y-OM	62.9	50.0	75	23	2	13.4	58.3	27	70	7.5	6.14	6.4	1								MJ	MJ			

A/ See Table 1 for explanation of abbreviations and symbols.





TABLE 36 DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=NORTH_DAKOTA STATION=WILLISTON NURSERY=FIELD-PLJT -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
CROSBY LEEDS WARD WELLS BUTND	56.9	22.7	0	66	34	18.0	47.5	20		9.0	8.14	5.5	3		MN		PB						MJ		YS
	58.0	25.1	2	67	31	18.5	47.2	12		10.0	8.31	4.3	3										MJ		YS
	57.0	26.9	1	79	20	17.7	50.4	15		9.0	7.26	4.4	3										MV		YS
	57.6	23.9	1	56	43	19.0	48.4	18		9.0	7.50	5.0	1		PB		MJ						MN		YS
	57.0	20.9	0	57	43	18.3	50.6	15		9.0	7.14	4.9	1		MN		MJ						MN		YS
MACOUN ROLETTE RUGBY WAKOOMA D6962	55.1	20.4	0	62	38	18.3	47.9	13		9.0	8.33	5.5	3		MJ		MN						MJ		
	59.7	33.1	3	88	9	18.6	51.1	17		8.5	7.61	4.6	3									PB	MJ		
	56.0	24.9	0	56	44	18.0	49.3	15		9.0	7.12	5.5	1		PB		MJ					MN			
	57.5	25.5	1	60	39	19.0	47.8	23		8.5	8.01	5.1	3				MN					PB	MJ		
	57.6	28.9	2	70	28	18.5	46.9	7		10.0	7.09	4.7	3						PB				MV		
D7025 D7057 D7074 D70101 D7171	57.8	27.2	1	85	14	18.2	49.1	18		9.0	7.18	5.5	3										MV		
	56.0	21.1	0	54	46	17.8	47.9	17		9.5	7.59	5.8	1		PB		MJ						MJ		
	58.2	26.7	7	78	15	17.4	49.6	15		10.0	6.92	5.6	4										PB		
	57.2	22.3	0	68	32	18.1	49.0	13		9.0	7.62	5.6	3		MN								MJ		
	58.9	29.0	1	86	13	18.0	50.0	20		9.0	6.78	6.1	4										PB		
D7176 D71110 D71111 D71117	58.7	25.9	0	85	15	17.5	49.6	13		9.5	6.82	6.3	4										PB		
	57.0	22.4	2	81	17	17.6	49.9	12		9.0	7.45	5.2	3		MN								MN		
	57.5	27.5	2	82	16	18.2	50.2	15		9.0	6.09	5.1	4										PB		
	56.6	26.2	3	80	17	18.4	50.3	18		9.5	7.06	4.5	3										MN		

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 37

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=WASHINGTON STATION=ROYAL_SLOPE NURSERY=INTERNATIONAL																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEFX	SP	CL	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110	8.0	6.30	3.4	4												YS
ALIFEN	61.0	46.5	76	24	0	13.4	44.6		85	5.0	7.13	5.7	1								MJ	MJ	MN		
ANHINGA "S"	64.5	49.5	89	11	0	12.9	43.0		85	5.0	5.39	5.2	1								MJ	MJ			
BPANT "S"	62.0	42.0	66	33	1	12.2	43.5		80	5.0	5.43	3.7	1								MJ	MJ			
CAPEITI	63.5	51.0	91	9	0	14.4	43.2		100	7.5	6.71	4.5	3								MJ	PB	PB		
COCORIT "S"	65.5	49.3	85	15	0	11.4	45.4		100	8.5	5.41	8.6	3								MJ				MN
COCORIT 71	64.0	49.5	83	16	1	11.3	47.3		75	5.0	6.01	6.9	1								MJ	MJ			
CRANE "S"	62.0	34.8	19	78	3	12.0	47.8		80	6.0	5.93	5.2	1			MN					MJ	MJ			
GAB 125	62.0	50.3	87	13	0	13.0	45.0		90	5.0	6.01	5.8	1								MJ	MJ			
GARZA "S"	62.5	45.8	77	23	0	13.5	45.1		75	5.0	6.53	4.9	1								MJ	MJ	PB		
GERARDO 574	60.5	44.1	61	38	1	12.8	47.1		110	8.0	4.59	6.3	4												
GERARDO 575	63.0	46.5	73	26	1	12.8	46.1		105	8.0	5.49	5.6	4								PB				
GS "S"	60.5	54.1	87	13	0	12.6	44.2		80	6.0	6.67	6.4	1								MJ	MJ	PB		
HERCULES	63.5	51.3	85	15	0	14.1	49.3		100	8.0	6.93	3.7	3								MJ		PB		
INRAT 69	63.5	49.5	82	18	0	13.2	45.9		105	7.5	6.93	4.6	3								PB	PB	PB		
JORI C69	63.0	52.6	87	13	0	13.6	45.2		85	7.0	6.41	3.1	1								MJ	MN			
LEFDS	64.5	44.4	76	24	0	14.3	47.5		110	8.0	6.35	4.1	4												
PARANA	61.5	50.0	83	17	0	11.9	43.9		95	7.5	5.99	5.2	3								MJ	PB			
QUILAFEN	63.5	43.5	69	29	2	11.7	45.1		110	9.0	6.71	7.3	4										PB		
ROLETTE	64.0	44.6	78	22	0	13.8	49.8		100	8.0	5.47	4.9	3								MJ				
TEHUACAN	64.0	58.5	93	7	0	14.4	45.0		95	7.0	5.65	7.5	1								MJ	MN			MN
WANDELL	62.0	35.1	32	61	7	11.8	48.1		105	8.5	5.65	7.5	4				MN				PB				MN
WELLS	64.5	42.9	71	28	2	14.2	47.0		95	8.0	5.61	6.0	1								MJ				
D6647	64.0	47.4	76	24	0	12.0	49.0		95	7.5	5.63	6.6	3								MJ	PB			
D6654	64.5	47.6	77	22	1	12.0	49.5		100	7.5	6.05	7.0	3								MJ	PB			

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



DURUM QUALITY EVALUATION<sup>A/</sup> 1974 CROP

STATE=WASHINGTON STATION=ROYAL\_SLOPE NURSERY=INTERNATIONAL

VARIETY	TW	KW	LG	MD	SM	PR	SEEX	SP	DU	VI	FR	RE	VAL	TW	KW	LG	SM	PR	MG	SP	DU	VI	FR	RE	SD
LEEDS	64.5	44.4	76	24	0	14.3	47.5		110	8.0	6.35	4.1	4						MN		MJ	MJ	MN		YS
ALIFEN	61.0	46.5	76	24	0	13.4	44.6		85	5.0	7.13	5.7	1	MN					MJ		MJ	MJ			
ANHINGA "S"	64.5	49.5	89	11	0	12.9	43.0		85	5.0	5.39	5.2	1						MJ		MJ	MJ			
BRANT "S"	62.0	42.0	66	33	1	12.2	43.9		80	5.0	5.43	3.7	1	PB	PB	MN			MJ		MJ	MJ			
CAPEITI	63.5	51.0	91	9	0	14.4	43.2		100	7.5	6.71	4.5	3						MJ		MJ	PB	PB		
COCORIT "S"	65.5	49.3	85	15	0	11.4	45.4		100	8.5	5.41	8.6	3						MN		MJ				MN
COCORIT 71	64.0	49.5	83	16	1	11.3	47.3		75	5.0	6.01	6.9	1						MJ		MJ	MJ			
CRANE "S"	62.0	34.8	19	78	3	12.0	47.8		80	6.0	5.93	5.2	1	PB	MJ	MJ	PB				MJ	MJ			
GAB 125	62.0	50.3	87	13	0	13.0	45.0		90	5.0	6.01	5.8	1	PB					MN		MJ	MJ			
GARZA "S"	62.5	45.8	77	23	0	13.5	45.1		75	5.0	6.53	4.9	1	PB					MN		MJ	MJ	PB		
GERARD 574	60.5	44.1	61	38	1	12.8	47.1		110	8.0	4.59	6.3	3	MJ											
GERARD 575	63.0	46.5	73	26	1	12.8	46.1		105	6.0	5.49	5.6	4						PB		PB				
GS "S"	60.5	54.1	87	13	0	12.6	44.2		80	6.0	6.67	6.4	1	MJ					MJ		MJ	MJ	PB		
HERCULES	63.5	51.3	85	15	0	14.1	49.3		100	8.0	6.93	3.7	3						MJ		MJ	PB	PB		
INRAT 69	63.5	49.5	82	18	0	13.2	45.9		105	7.5	6.93	4.6	3						PB		PB	PB	PB		
JORI 69	63.0	52.6	87	13	0	13.6	45.2		85	7.0	6.41	3.1	1						MN		MJ	MN			
PARANA	61.5	50.0	83	17	0	11.9	43.9		95	7.5	5.99	5.2	1	MN					MJ		MJ	PB			
QUILAFEN	63.5	43.5	69	29	2	11.7	45.1		110	9.0	6.71	7.3	3			PB	PB		MN				PB		
ROLFETTE	64.0	44.6	78	22	0	13.8	49.8		100	8.0	5.47	4.9	3								MJ				
TEHUACAN	64.0	58.5	93	7	0	14.4	45.0		95	7.0	5.65	7.5	1						MN		MJ	MN			MN
WANDELL	62.0	35.1	32	61	7	11.8	48.1		105	8.5	5.65	7.5	1	PB	MJ	MJ	MN				PB				MN
WELLS	64.5	42.9	70	28	2	14.2	47.0		95	8.0	5.61	6.0	1			PB	PB				MJ				
06647	64.0	47.4	76	24	0	12.0	49.0		95	7.5	5.63	6.6	1								MJ	PB			
06654	64.5	47.6	77	22	1	12.0	49.5		100	7.5	6.05	7.0	3								MJ	PB			

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 39

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=CALIFORNIA STATION=DELTA NURSERY=PRELIMINARY -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110	8.0	6.30	3.4	4												YS
COCORIT 71	63.0	57.1	87	13	0	13.3	49.3		75	5.0	7.79	6.0	1								MJ	MJ			
CRANE B	61.5	50.5	82	18	0	13.3	46.7		90	6.0	7.15	3.0	1								MJ	MJ			
LEEDS	61.0	37.2	39	60	1	15.2	50.3		110	8.0	7.05	3.7	3												
447/E1	62.5	42.6	68	32	0	14.1	52.1		125	9.0	5.39	9.9	4												YN
447/E2	62.0	44.8	73	27	0	15.9	48.0		125	9.5	5.63	7.7	4												MN
447/E9	62.0	42.4	61	38	1	14.0	46.7		120	9.5	6.27	9.3	4												MN
447/E12	60.5	46.5	66	34	0	13.3	43.7		110	8.5	7.01	9.0	3												MN
447/E21	61.0	50.0	73	27	0	13.8	51.3		95	8.0	7.51	10.2	1							MJ	MJ				MJ
447/E22	62.0	52.9	75	25	0	13.5	49.3		105	8.5	7.49	2.3	3							PB	PB				MN
447/E23	61.5	46.5	67	33	0	13.8	45.0		100	8.5	6.60	3.4	3							MJ	MJ				PB
447/E29	62.0	53.5	77	23	0	14.3	45.7		105	8.0	8.22	1.3	3							PB	PB				MJ
447/E31	63.0	49.8	81	19	0	12.3	42.8		70	5.0	7.61	1.1	1							MJ	MJ				MJ
447/E33	63.0	49.3	76	24	0	12.5	42.0		80	5.0	8.32	6.1	1							MJ	MJ				MJ
447/E38	63.0	44.1	61	38	1	14.4	44.4		105	8.5	8.64	1.0	3							PB	PB				MJ
447/E47	62.5	45.7	69	31	0	13.7	48.7		110	9.0	5.85	3.4	4												
447/E48	63.0	47.4	71	29	0	14.2	49.3		110	8.5	6.27	3.2	4												
447/E59	62.5	47.6	65	34	1	14.4	48.3		120	9.0	7.85	3.5	3												MJ
447/F64	61.5	48.3	59	40	1	14.0	47.7		120	9.0	5.73	1.0	4												
447/F65	60.0	40.3	31	67	2	14.3	47.0		115	9.0	5.75	2.5	4												
447/F76	62.5	42.6	59	40	1	15.8	46.7		120	9.5	5.89	4.3	4												
447/E103	61.0	47.1	71	29	0	14.1	50.7		120	9.5	5.89	3.4	4												
447/E113	60.5	52.9	81	19	0	13.4	48.0		90	8.0	8.58	2.8	1							MJ	MJ				MJ
447/E117	63.0	42.7	56	44	0	13.9	51.0		125	9.5	6.03	4.2	4												
447/E118	62.5	47.6	70	30	0	13.9	52.0		105	8.5	6.27	4.7	4							PB	PB				
447/E120	63.0	43.3	63	37	0	13.4	51.3		115	8.5	5.89	4.9	4												
447/E125	61.0	40.3	42	56	2	13.6	52.0		120	9.5	6.51	4.9	4												PB
447/E130	62.5	48.8	85	15	0	14.7	48.7		120	8.5	6.57	2.3	4												PB
447/F133	62.0	48.8	61	39	0	13.7	53.2		105	8.5	6.45	5.2	4							PB	PB				
447/F137	60.0	39.8	28	71	1	13.9	53.6		120	9.5	6.87	1.7	4												PB

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 40

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CRQP

STATE=CALIFORNIA STATION=DELTA NURSERY=PRELIMINARY

VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	61.0	37.2	39	60	1	15.2	50.3		110	8.0	7.05	3.7	3												YS
COCORIT 71	63.0	57.1	87	13	0	13.3	49.3		75	5.0	7.79	6.0	1								MJ	MJ	MJ		
CRANE B	61.5	50.5	82	18	0	13.3	46.7		90	6.0	7.15	3.0	1						MJ		MJ	MJ	MJ		
447/E1	62.5	42.6	68	32	0	14.1	52.1		125	9.0	5.39	9.9	4												MN
447/E2	62.0	44.8	73	27	0	15.9	48.0		125	9.5	5.63	7.7	4						MN						MN
447/E9	62.0	42.4	61	38	1	14.6	46.7		120	9.5	6.27	9.3	3						MJ						MN
447/E12	60.5	46.5	66	34	0	13.3	43.7		110	8.5	7.01	9.0	1						MJ						MN
447/E21	61.0	50.0	73	27	0	13.8	51.3		95	8.0	7.51	10.2	1								MJ	MJ	MJ		MJ
447/E22	62.0	52.9	75	25	0	13.5	49.3		105	8.5	7.49	2.8	3								PB				MN
447/E23	61.5	46.5	67	33	0	13.8	45.0		100	8.5	6.60	3.4	3						MJ		MJ				PB
447/E29	62.0	53.5	77	23	0	14.3	45.7		105	8.0	8.22	1.3	2						MJ		PB				MJ
447/E31	63.0	49.8	81	19	0	12.3	42.8		70	5.0	7.61	1.1	1						MJ		MJ	MJ			MJ
447/E33	63.0	49.3	76	24	0	12.5	42.0		80	5.0	8.32	6.1	1						MJ		MJ	MJ			MJ
447/E38	63.0	44.1	61	38	1	14.4	44.4		105	8.5	8.64	1.0	2						MJ		PB				MJ
447/E47	62.5	45.7	69	31	0	13.7	48.7		110	9.0	5.85	3.4	4						PB						
447/E48	63.0	47.4	71	29	0	14.2	49.3		110	8.5	6.27	3.2	4												
447/E59	62.5	47.6	65	34	1	14.4	48.3		120	9.0	7.85	3.5	3						PB						
447/E64	61.5	48.3	59	40	1	14.0	47.7		120	9.0	5.73	1.0	4						MN						MJ
447/E65	60.0	40.3	31	67	2	14.3	47.0		115	9.0	5.75	2.5	3						MJ						
447/E76	62.5	42.6	59	40	1	15.8	46.7		120	9.5	5.89	4.3	3						MJ						
447/E103	61.0	47.1	71	29	0	14.1	50.7		120	9.5	5.89	3.4	4												
447/E113	60.5	52.9	81	19	0	13.4	48.0		90	8.0	8.58	2.8	1								MJ				
447/E117	63.0	42.7	56	44	0	13.9	51.0		125	9.5	6.03	4.2	4												
447/E118	62.5	47.6	70	30	0	13.9	52.0		105	8.5	6.27	4.7	4								PB				
447/E120	63.0	43.3	63	37	0	13.4	51.3		115	8.5	5.89	4.9	4												
447/E125	61.0	40.3	42	56	2	13.6	52.0		120	9.5	6.51	4.9	4												PB
447/E130	62.5	48.8	85	15	0	14.7	48.7		120	8.5	6.57	2.3	4						PB						PB
447/E133	62.0	48.8	61	39	0	13.7	53.2		105	8.5	6.45	5.2	4								PB				
447/E137	60.0	39.8	28	71	1	13.9	53.6		120	9.5	6.87	1.7	4												PB

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 41  
QUOQUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=CALIFORNIA STATION=DELTA NURSERY=PRELIMINARY -----

VARIETY	_TW_	_KW_	_LG_	_MD_	_SM_	_PP_	_SSEX_	SP	DU	_VL_	_FR_	_VAL_	_TW_	_KW_	_LG_	_SM_	_PP_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110			4												YS
447/E3	61.5	39.8	41	57	2	14.9	46.7		115			4												
447/E4	62.0	44.2	63	37	0	14.6	45.7		110			4												
447/E5	61.0	45.2	54	46	0	14.4	46.7		115			4												
447/E6	62.0	40.5	51	47	2	15.2	50.7		115			4												
447/E13	60.5	42.9	54	45	1	12.6	45.8		110			4												
447/E15	61.5	48.8	71	29	0	14.5	48.0		115			4												
447/E16	62.0	39.1	39	60	1	14.3	45.8		115			4												
447/E34	64.0	50.8	84	16	0	14.2	45.7		90			1								MJ				
447/F35	62.0	45.2	63	36	1	14.3	44.7		90			1								MJ				
447/E36	62.5	47.1	74	26	0	13.7	46.8		120			4												
447/E46	61.5	42.0	50	49	1	13.9	44.7		105			3								PB				
447/E51	63.5	55.9	87	13	0	14.1	49.0		105			3								PB				
447/E66	62.0	50.3	70	30	0	14.9	47.7		110			4												
447/F72	63.5	51.5	83	17	0	14.6	49.7		110			4												
447/E79	60.5	44.1	53	46	1	14.9	46.4		120			4												
447/F82	61.0	36.1	23	75	2	14.6	45.7		110			4			PB									
447/F83	64.0	42.9	66	33	1	14.3	47.4		110			4												
447/F84	60.0	40.7	57	42	1	14.9	43.0		130			4												
447/E86	61.0	45.7	73	27	0	14.7	45.8		130			4												
447/F87	60.5	48.3	70	30	0	14.6	47.0		110			4												
447/F88	60.5	41.2	25	73	2	14.6	47.1		95			1								MJ				
447/E91	61.0	42.6	30	67	3	13.6	47.7		105			3			PB					PB				
447/F95	62.0	45.0	67	32	1	14.1	48.4		110			4												
447/F96	63.5	48.1	77	23	0	13.4	49.0		110			4												
447/E99	52.0	51.3	80	20	0	14.7	47.1		105			3								PH				
447/E102	62.5	46.7	71	29	3	14.3	45.0		105			3								PB				
447/F106	60.0	40.0	45	52	3	14.9	50.0		105			3								PB				
447/F110	60.5	35.1	17	78	5	12.5	49.7		100			2								MJ				
447/F119	62.5	46.7	65	34	1	13.6	51.0		110			4												
447/F121	63.0	46.9	70	20	0	13.5	52.9		95			1								MJ				
447/F122	62.5	45.0	64	36	0	14.4	51.7		110			4												
447/F124	52.0	45.0	61	39	0	14.6	51.7		110			4												
447/F127	61.5	42.7	50	50	0	14.5	51.0		115			4												
447/F123	63.5	48.3	75	25	0	13.7	51.0		105			3								PB				
447/F129	63.0	47.1	78	22	0	14.5	52.6		120			4												
447/F131	61.5	42.9	64	36	0	14.5	50.6		115			4												
447/F134	60.0	44.6	55	44	1	14.3	52.3		110			4												
447/F135	63.5	44.6	73	27	0	13.7	53.3		105			3								PB				
447/F136	60.0	47.8	63	37	0	14.2	52.0		105			3								PB				
447/F138	61.5	46.3	57	42	1	13.9	52.0		105			3								PB				
447/F139	60.5	42.2	32	67	1	14.0	52.6		120			4												
447/F140	61.0	44.8	43	56	1	13.5	53.3		110			4												
ND5555	61.5	42.7	44	50	1	13.9	52.6		115			4												

A/ See Table 1 for explanation of abbreviations and symbols



DURUM QUALITY EVALUATION<sup>A/</sup>  
1974 CROP

VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FF_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.																									YS
LEEDS	58.8	35.1	31	67	2	14.1	40.8		110	8.0	6.30	3.4	4												
P70N5037	64.0	35.7	42	57	1	12.6	49.0		120	9.0	5.35	3.5	4								MJ				PB
P70N5050	63.5	42.2	51	47	2	12.5	42.9		95	8.0	6.89	2.4	1												
P70N5070	63.5	42.4	62	37	1	11.8	47.5		115	9.5	6.47	5.2	4								MJ				MJ
	63.5	53.8	89	11	0	15.1	49.0		95	6.0	8.00	5.1	1												
P70N5077	61.5	36.0	35	61	4	12.8	50.0		85	7.0	6.69	5.6	1				PB				MJ	MN			PB
TFS73005	63.5	35.8	31	66	3	11.5	49.0		115	9.0	5.49	2.9	4												
TFS73006	65.0	43.9	73	27	0	11.0	46.5		95	8.5	6.31	3.5	1								MJ				
TFS73022	62.0	40.3	31	67	2	12.4	48.0		110	8.5	6.35	1.8	4												
TFS73055	61.5	43.5	61	38	1	12.0	47.0		110	9.0	6.43	4.8	4												
TFS73102	62.0	35.1	23	75	2	12.9	48.0		115	9.5	6.47	4.0	4				PB								
TFS73103	61.5	36.4	15	81	4	12.3	47.0		115	9.5	6.45	4.5	3				MJ								
TFS73107	60.5	43.3	54	45	1	12.1	45.0		95	7.0	5.11	5.1	1								MJ	MN			
TFS73135	62.0	40.2	47	49	4	13.2	51.0		115	8.5	6.07	5.1	4				PB								
T7400024	63.0	40.2	55	44	1	12.4	51.0		120	9.5	5.43	6.3	4												
T7400025	62.0	41.5	63	36	1	13.1	48.5		105	8.0	6.55	1.6	4								PB				PB
T7400037	63.5	40.0	61	39	0	13.7	50.0		120	9.0	5.97	5.9	4								PB				
T7400068	63.0	44.6	75	25	0	12.1	51.0		125	9.5	5.23	6.8	4												
T7400074	63.5	38.6	46	53	1	11.3	53.0		125	9.5	5.39	6.7	4												
T7400102	62.5	40.3	60	39	1	13.0	54.0		110	8.5	6.63	4.8	4												PB
T7400113	62.0	40.0	55	44	1	13.3	51.0		110	8.5	5.57	4.0	4												
T7400122	61.5	36.6	47	51	2	12.6	51.0		110	8.5	5.91	4.5	4												
T7400125	63.5	37.7	52	47	1	13.0	50.0		120	9.5	5.53	3.7	4												
T7400187	63.0	35.2	40	59	1	11.2	50.0		125	10.0	5.43	3.4	4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 43

DURUM QUALITY EVALUATION<sup>A/</sup> 1974 CRCP

STATE=WASHINGTON STATION=ROYAL_SLOPE NURSERY=PRELIMINARY																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SFEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
LEEDS	64.0	35.7	42	57	1	12.6	49.0		120	9.0	5.35	3.5	4												YS
P70N5037	63.5	42.2	51	47	2	12.5	42.9		95	8.0	6.89	2.4	1						MJ		MJ	MN	PB		
P70N5050	63.5	42.4	62	37	1	11.8	47.5		115	9.5	6.47	5.2	4						PB		PB				
P70N5070	63.5	53.8	89	11	0	15.1	49.0		95	6.0	8.00	5.1	1								MJ	MJ	MJ		
P70N5077	61.5	36.0	35	61	4	12.8	50.0		85	7.0	6.69	5.6	1		PB	PB	PB				MJ	MJ	PB		
TFST73005	63.5	35.8	31	66	3	11.5	49.0		115	9.0	5.49	2.9	4			MN	PB				PB				
TFST73006	65.0	43.9	73	27	0	11.0	46.5		95	8.5	6.31	3.5	1					MN			MJ	PB			
TFST73022	62.0	40.3	31	67	2	12.4	48.0		110	8.5	6.35	1.8	3		PB	MN					MJ	PB			
TFST73055	61.5	43.5	61	38	1	12.0	47.0		110	9.0	6.43	4.8	3		PB			PB			MJ				
TFST73102	62.0	35.1	23	75	2	12.9	48.0		115	9.5	6.47	4.0	3		PB	MJ					PB				
TFST73103	61.5	36.4	15	81	4	12.3	47.0		115	9.5	6.45	4.5	1		PB	MJ	P3		PB		PB				
TFST73107	60.5	43.3	54	45	1	12.1	45.0		95	7.0	5.11	5.1	1		MN				MJ		MJ				
TFST73135	62.0	40.2	47	49	4	13.2	51.0		115	8.5	6.07	5.1	4		PB		PB				PB				
T7400024	63.0	40.2	55	44	1	12.4	51.0		120	9.5	5.43	6.3	4												
T7400025	62.0	41.5	63	36	1	13.1	48.5		105	8.0	6.55	1.6	1		PB						MJ	MN	PB		
T7400037	63.5	40.0	61	39	0	13.7	50.0		120	9.0	5.97	5.9	4												
T7400058	63.0	44.6	75	25	0	12.1	51.0		125	9.5	5.23	6.8	4												
T7400074	63.5	38.6	46	53	1	11.3	53.0		125	9.5	5.39	6.7	4												
T7400102	62.5	40.3	60	39	1	13.0	54.0		110	8.5	6.63	4.8	3		PB						MJ	PB	PB		
T7400113	62.0	40.0	55	44	1	13.3	51.0		110	8.5	5.57	4.0	3		PB						MJ	PB			
T7400122	61.5	36.6	47	51	2	12.6	51.0		110	8.5	5.91	4.5	3		PB						MJ		PB		
T7400125	63.5	37.7	52	47	1	13.0	50.0		120	9.5	5.53	3.7	4												
T7400187	63.0	35.2	40	59	1	11.2	50.0		125	10.0	5.43	3.4	4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 44

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=WASHINGTON STATION=ROYAL_SLOPE NURSEPPY=PRELIMINARY																									
VARIETY	_TW_	_KW_	LG	MD	_SM_	_PR_	SFFX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
1974 STD.	58.8	35.1	31	67	2	14.1	40.8		110				4												YS
P70N5038	63.0	41.3	55	44	1	12.1	46.5		105				3								PB				
TFS73018	64.0	37.6	43	55	2	12.3	46.0		95				1								MJ				
TFS73019	63.0	38.2	37	60	3	13.2	47.0		100				2								MJ				
TFS73104	60.5	40.8	43	55	2	12.2	43.5		105				3								PB				
TFS73105	62.5	42.7	59	41	0	12.2	43.0		100				2								MJ				
TFS73106	61.5	43.9	53	45	2	12.6	43.5		90				1								MJ				
TFS73121	62.0	43.7	59	41	0	12.5	52.5		110				4												
TFS73122	61.0	39.5	29	69	2	12.6	50.0		105				3								PB				
TFS73124	63.0	38.6	36	62	2	12.4	50.5		110				4												
T7400003	63.0	49.8	85	15	0	14.9	43.0		95				1								MJ				
T7400004	63.5	46.9	80	19	1	13.5	49.5		105				3								PB				
T7400015	63.0	39.8	58	41	1	13.1	50.5		110				4												
T7400016	62.0	39.8	66	34	0	13.6	50.0		105				3								PB				
T7400017	63.0	42.2	68	32	0	12.9	50.0		105				3								PB				
T7400018	63.0	39.8	62	38	0	13.9	50.0		110				4												
T7400020	63.5	37.3	49	50	1	12.7	49.0		115				4												
T7400035	63.5	38.9	53	46	1	13.2	49.0		115				4												
T7400048	64.0	50.3	83	17	0	13.7	51.0		100				2								MJ				
T7400051	64.0	46.7	79	21	0	13.3	51.0		100				2								MJ				
T7400052	64.0	46.9	79	21	0	13.4	51.5		95				1								MJ				
T7400062	64.0	47.6	81	19	0	13.5	51.5		95				1								MJ				
T7400066	63.5	48.1	81	19	0	13.2	51.0		100				2								MJ				
T7400075	60.5	36.9	46	53	1	14.0	50.5		105				3								PB				
T7400088	61.0	50.0	79	21	0	13.6	49.5		90				1								MJ				
T7400089	60.5	45.0	79	21	0	13.6	49.0		90				1								MJ				
T7400096	61.5	41.3	51	48	1	12.4	52.0		105				3								PB				
T7400100	63.0	39.7	59	40	1	13.4	50.5		100				2								MJ				
T7400104	64.0	39.4	59	41	0	13.5	49.7		95				1								MJ				
T7400109	58.5	42.2	71	29	0	14.1	50.0		90				1												
T7400110	60.0	48.8	83	17	0	14.9	50.5		90				1								MJ				
T7400112	62.0	49.0	86	14	0	13.5	52.0		95				1												
T7400124	62.5	42.2	64	35	1	13.9	50.5		110				4												
T7400130	61.5	39.8	71	29	0	15.0	48.0		110				4												
T7400131	60.5	40.0	67	32	1	14.3	48.6		115				4												
T7400132	63.0	38.5	62	37	1	13.8	51.4		110				4												
T7400142	63.0	35.8	48	51	1	12.0	49.5		110				4												
T7400150	63.5	42.2	62	37	1	12.1	51.0		115				4												
T7400233	63.5	40.2	53	46	1	11.2	50.5		115				4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 45

DURUM QUALITY EVALUATION<sup>A/</sup>  
1974 CROP

-----		STATE=WASHINGTON STATION=PULLMAN NURSERY=SPECIALS -----																								-----	
VARIETY		-TW-	-KW-	LG	MD	SM	-PR-	SEEX	SP	CU	-VI-	-FR-	-RE-	VAL	--TW	-KW	-LG	-SM	-PR	-MG	-SP	-DU	-VI	-FR	-RE	SD	
1974 STD.		58.8	35.1	31	67	2	14.1	55.6	30	95	9.5	6.37	5.3	4							MN					YS	
MP 25 D		63.3	44.1	68	32	0	14.3	53.4	23	85	8.5	5.87	4.9	3						PB		MJ	MN				
WS 14 D		64.8	51.3	90	10	0	12.0	56.3	30	75	7.5	3.47	3.3	1							MN	MJ	MJ	MJ		MJ	

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CRJP

TABLE 46

----- STATE=MINNESOTA STATION=CROOKSTON NURSERY=UNIFORM -----

VARIETY	TW	KW	LG	MD	SM	PR	SEEX	SP	DU	VI	FR	RE	VAL	TW	KW	LG	SM	PR	MG	SP	DU	VI	FR	RE	SD
CROSBY	60.0	38.8	45	54	1	13.7	51.5		95				4												YS
LEFDS	60.5	38.8	41	58	1	14.6	53.1		95				4												YS
WARD	59.5	41.2	49	50	1	12.6	50.9		95				4												YS
WELLS	61.0	36.8	35	63	2	14.4	49.7		95				4		PB	PB									YS
BOTNO	59.5	39.1	50	49	1	14.1	54.3		95				4												YS
LAKOTA	58.5	35.3	29	68	3	13.8	49.0		90				3	PB	MN	MV	PB				PB				
MACOUN	59.0	43.7	68	31	1	13.9	53.1		105				4												
MINDUM	61.0	39.4	47	52	1	12.4	54.9		90				3												PB
ROLFETTE	60.5	43.3	56	43	1	15.0	54.0		95				4												
RUGBY	59.0	41.7	42	57	1	13.7	53.1		100				4												
WAKOOMA	58.5	41.8	59	40	1	14.8	52.0		100				4	PB											
D5962	58.5	46.3	53	46	1	15.0	52.0		95				4	PB											
D7025	59.0	44.8	60	39	1	14.5	54.9		85				2												MJ
D7057	60.0	41.2	56	43	1	13.9	53.7		100				4												
D70101	60.0	45.2	59	40	1	13.9	54.3		95				4												
D7150	60.0	39.1	55	44	1	14.0	53.5		100				4												
D7171	61.0	41.2	53	46	1	13.0	55.0		95				4												
D7176	59.0	41.3	55	44	1	14.2	54.0		100				4												
D71110	58.5	41.5	45	54	1	13.8	52.5		100				4	PB											
D71111	59.0	37.6	45	53	2	13.1	54.0		95				4		PB										
D71117	59.5	39.7	55	44	1	14.3	52.5		100				4												
DT411	58.5	41.2	48	51	1	13.2	56.5		100				4		PB										

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 47

DJRUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=MINNESOTA STATION=MORRIS NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
CROSBY	61.0	41.3	12	85	3	14.3	56.0		115				4			PB									YS
LEEDS	62.0	38.0	23	74	3	15.2	55.4		110				4			PB									YS
WARD	60.5	41.3	20	76	4	14.7	55.4		110				4												YS
WELLS	61.0	36.2	10	84	6	13.7	55.4		110				4			PB	PB	PB							YS
BUTNO	62.0	39.1	17	80	3	14.2	58.3		105				3								MN				
LAKOTA	60.0	41.8	9	84	7	13.8	54.9		110				4			PB	PB								
MINDUM	63.0	37.2	21	75	3	13.2	58.5		100				1			PB					MJ				
ROLETTE	61.5	40.3	17	80	3	14.4	58.9		110				4												
RUGBY	61.0	40.5	21	76	3	14.3	56.6		115				4												
WAKOOMA	61.0	39.4	13	84	3	14.1	57.7		110				4												
D6962	59.5	37.6	7	87	6	15.7	58.3		115				4			PB	PB	MN	PB						
D7025	59.0	44.4	17	78	5	14.7	57.7		105				3			PB					MN				
D7047	59.0	34.5	9	84	7	14.5	57.7		115				4			PB	PB	PB							
D7057	60.5	33.6	7	88	5	14.1	57.1		120				4			MN	MN	MN							
D70101	61.0	37.2	15	82	3	14.6	57.5		110				4			PB									
D7150	61.5	38.9	39	58	3	14.0	58.9		110				4												
D7171	60.0	34.2	7	86	7	13.9	58.9		95				1			MN	MN	PB			MJ				
D7176	60.5	36.2	15	80	5	14.0	58.3		110				4			PB									
D71110	59.5	38.5	23	72	5	14.1	58.3		115				4			PB									
D71111	60.5	39.5	31	65	4	14.1	57.1		105				3								MN				
D71117	61.5	38.9	24	74	2	14.1	56.6		110				4												
D7411	59.5	38.2	20	77	3	13.9	58.9		110				4			PB	PB								

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



DURUM QUALITY EVALUATION<sup>A/</sup> 1974 CROP

----- STATE=MONTANA STATION=HAVRE NURSERY=UNIFORM -----																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	RE_	VAL	_TW_	_KW_	LG	SM	_PR_	MG	_SP_	_DU_	_VI_	_FR_	RE	SD
CROSBY	58.5	32.8	11	84	5	15.1	54.5		115				4												YS
LFEDS	59.5	36.0	12	85	3	15.2	55.0		120				4												YS
WARD	58.0	34.2	12	84	4	14.7	53.0		120				4												YS
WELLS	57.5	28.3	4	85	11	15.3	51.0		110				2	MN	PB	MN	PB				MN				YS
BOTNO	58.0	34.2	19	74	7	14.7	58.5		115				4												YS
MACOUN	57.0	35.2	17	81	2	15.0	54.5		110				3	PB											MN
MINDUM	59.5	33.8	16	83	1	15.2	54.5		100				1												MJ
ROLETTE	60.0	40.2	35	64	1	15.6	57.5		110				3												MN
RUGBY	57.5	32.3	7	87	6	14.8	53.5		120				4												
WAKJOMA	56.0	31.8	5	92	3	16.1	52.5		110				3	PB	PB	PB	PB								MN
D6962	58.5	34.2	13	85	2	15.5	56.0		125				4												
D7025	57.5	35.1	15	82	3	15.7	56.5		110				3												MN
D7047	58.0	33.6	9	88	3	14.6	56.5		120				4												
D7057	56.5	30.2	5	87	8	14.3	54.0		115				4	PB	MN	PB	PB								
D70101	58.5	36.6	13	85	2	15.3	55.5		115				4												
D7150	58.0	32.2	12	83	5	15.3	58.0		120				4												
D7171	59.5	35.2	12	86	2	15.0	58.0		105				1												MJ
D7176	57.5	33.1	9	87	4	14.9	57.0		120				4												
D71110	58.0	34.7	19	77	4	14.7	54.5		125				4												
D71111	57.5	31.9	10	84	6	14.8	54.0		110				3		PB										MN
D71117	58.0	35.1	20	75	5	15.2	55.0		125				4												
D7411	57.0	35.0	5	89	6	15.3	54.5		115				4	PB											PB

A/ See Table 1 for explanation of abbreviations and symbols.



TABLE 49

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=MONTANA STATION=SIDNEY NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	RE_	VAL	_TW_	_KW_	_G_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
CROSBY LEEDS WARD WELLS BJTNO	58.0	28.2	1	85	14	16.6	51.5		115				3								PB				YS
	59.0	29.8	1	88	11	17.4	52.5		115				3								PB				YS
	56.5	27.7	1	87	12	17.0	54.0		120				4											YS	
	55.5	25.7	1	79	20	17.6	52.0		130				4	PB	MN									YS	
	59.0	29.9	1	89	10	16.7	56.0		120				4											YS	
MACOUN MINDUM RILETTE RUGBY WAKJOMA	56.0	28.0	4	85	11	17.2	51.5		120				4												
	59.0	30.5	2	88	10	17.2	53.5		100				1								MJ				
	60.5	33.1	3	92	5	16.8	55.0		120				4												
	57.0	27.5	1	84	15	17.1	53.5		120				4												
	59.5	28.2	1	85	14	16.9	52.5		125				4												
D6962 D7025 D7047 D7057 D70101	59.5	27.5	1	87	12	16.5	53.5		130				4												
	56.5	28.3	2	79	19	16.5	56.0		120				4								MN				
	57.5	27.6	1	82	17	16.6	54.5		135				4								PB				
	55.5	25.6	1	80	19	16.3	54.5		130				4	PB	MN										
	59.0	32.1	1	89	10	16.5	57.0		120				4												
D7150 D7171 D7176 D71110 D71111	60.5	29.7	2	90	8	16.3	56.0		130				4												
	59.0	28.5	1	87	12	16.0	56.5		120				4												
	60.0	28.7	2	85	13	16.0	55.5		120				4												
	58.0	28.8	1	87	12	16.5	54.0		125				4												
	57.5	29.5	1	89	10	16.8	52.0		125				4												
D71117 D7411	57.0	28.3	3	86	11	16.8	54.0		125				4												
	57.0	27.7	1	83	16	17.0	54.0		125				4								PB				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





TABLE 50

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CRCP

STATE=NORTH_DAKOTA STATION=DICKINSON NURSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
CROSBY	60.5	34.5	10	87	3	14.9	52.5		115				4											YS	
LEEDS	61.0	34.1	10	88	2	15.8	52.5		100				1								MJ			YS	
WARD	60.5	35.7	14	85	1	15.5	51.5		125				4											YS	
WELLS	61.0	30.5	3	90	7	15.7	52.0		115				4											YS	
BOTNO	61.0	35.1	7	89	4	15.5	55.5		110				3				MN	PB	PB		PB				
MACOUN	59.5	33.3	13	85	2	15.7	51.0		120				4												
MINDUM	60.5	34.8	13	85	2	15.5	53.5		95				1								MJ				
ROLETTE	61.0	36.9	12	86	2	16.0	55.5		110				3								PB				
RUGBY	60.5	35.8	9	88	3	15.4	52.0		115				4												
WAKOOMA	59.0	35.1	10	87	3	15.7	55.0		100				1	PB							MJ				
D6962	62.0	33.8	7	91	2	15.7	55.0		120				4												
D7025	60.0	35.2	13	84	3	15.7	55.5		110				3								PB				
D7047	62.0	34.5	7	90	3	14.8	55.0		115				4												
D7057	61.0	34.1	6	91	3	14.4	53.5		110				3								PB				
D70101	61.0	36.5	9	89	2	15.5	56.0		105				3								MN				
D7131	57.5	43.7	69	30	1	15.7	55.5		110				3	MN							PB				
D7150	61.5	35.3	15	83	2	16.4	54.5		115				4												
D7158	60.5	31.3	3	92	5	14.7	51.5		125				4				PB	PB	PB						
D7169	57.0	31.5	2	89	9	15.1	56.5		125				3	MJ			PB	PB	PB						
D7171	60.0	32.1	3	91	6	15.6	57.5		110				3				PB	PB	PB		PB				
D7175	61.0	38.6	15	83	2	15.9	53.5		125				4												
D7176	59.5	34.0	11	87	2	15.5	55.0		105				3								MN				
D71110	59.5	37.2	19	77	4	15.0	53.5		115				4												
D71111	60.5	35.8	11	87	2	15.2	52.7		110				3								PB				
D71117	60.5	35.5	19	79	2	15.7	55.5		110				3								PB	PB			
D7411	59.5	34.6	7	89	4	15.7	55.0		110				3								PB				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 51  
DURUM QUALITY EVALUATION <sup>A/</sup>

1974 CROP

STATE=NORTH_DAKOTA STATION=WILLISTON NJRSRY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
CROSBY LEEDS WARD WELLS BOTNO	58.5	29.6	1	88	11	17.3	53.5		115				3						PB		PB				YS
	61.0	30.9	1	90	9	17.5	55.0		130				4											YS	
	58.0	30.6	1	86	13	17.5	57.5		115				3								PB			YS	
	58.0	28.0	1	82	17	17.2	55.0		120				4		PB		MN							YS	
	59.5	30.6	1	86	13	17.0	55.0		125				4												
MACOUN MINNDUM ROLETTE RUGBY WAKOOMA	57.5	30.6	3	89	8	17.7	52.0		120				3						MN						
	59.5	31.3	2	89	9	17.5	55.0		90				1								MJ				
	60.5	34.8	3	94	3	18.0	54.5		110				2								MJ				
	59.0	31.6	1	82	17	17.4	52.0		120				3				MN		MN						
	58.5	25.3	1	81	18	18.1	56.5		115				3		MN		MN				PB				
D6962 D7025 D7047 D7057 D70101	60.5	32.5	1	94	5	17.2	58.5		125				4												
	58.5	31.8	1	85	14	17.5	50.0		120				3				PB		MJ						
	60.0	34.2	2	89	9	16.9	56.5		120				4												
	59.0	28.3	1	82	17	16.2	55.5		125				4				MN								
	59.0	30.1	1	88	11	17.1	58.0		125				4												
D7131 D7150 D7158 D7169 D7171	58.5	35.5	14	85	1	17.7	56.0		125				4												
	60.5	28.8	1	88	11	17.3	55.0		120				4												
	58.5	28.2	1	77	22	16.8	53.5		125				3		PB				PB						
	56.0	26.1	1	70	29	17.0	57.0		125				1		MN		MJ								
	60.0	36.2	1	94	5	17.4	58.5		105				1				MJ				MJ				
D7175 D7176 D71110 D71111 D71117	59.0	30.7	1	80	19	17.5	57.0		125				4												
	60.0	30.6	1	90	9	17.0	57.5		115				3								PB				
	58.5	20.2	1	86	13	17.3	55.5		120				1		MJ										
	59.0	28.0	1	84	15	17.3	55.0		115				3		PB						PB				
	59.0	30.9	2	89	9	17.0	56.5		120				4												
DT411	58.0	29.4	1	81	18	17.2	54.0		120				4												

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



TABLE 52

DJURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

----- STATE=SOUTH\_DAKOTA STATION=NEWELL NURSERY=UNIFORM -----

VARIETY	TW_KW	LG	MD	SM	PR	SEEX	SP	DU	VI_FR	RE_VAL	TW_KW	LG	SM	PR	MG	SP	DU	VI	FR	RE	SD
CROSBY	56.0	25.3	1	85	14	20.1	47.0	110		3											YS
LEEDS	59.5	28.4	3	89	8	19.4	47.0	120		4											YS
WARD	56.0	25.1	1	85	14	20.9	49.0	110		3											YS
WELLS	57.5	23.9	1	84	15	18.9	48.5	115		4											YS
BJTNO	58.0	27.1	1	85	14	19.2	52.0	110		3											YS
MACOUN	58.0	27.5	1	87	12	19.3	54.5	120		4											
MINDUM	59.5	28.5	3	93	4	18.1	57.5	85		1											
ROLETTE	58.5	29.7	2	91	7	19.8	57.5	115		4											
RUGBY	58.0	29.3	7	88	5	18.4	55.0	125		4											
WAKOOMA	58.0	27.1	1	88	11	19.3	55.5	115		4											
D6962	60.0	29.7	1	91	8	18.8	56.0	115		4											
D7025	57.5	29.7	3	89	8	19.3	51.0	100		1											
D7047	60.0	30.3	3	89	8	19.0	50.0	115		4											
D7057	57.0	25.8	1	84	15	19.1	50.5	110		3											
D70101	58.0	28.0	1	88	11	20.1	57.5	105		3											
D7150	60.5	29.2	3	91	6	18.5	57.5	110		3											
D7171	58.5	27.8	1	88	11	19.1	58.3	100		1											
D7176	58.5	28.3	1	90	9	18.7	56.0	105		3											
D71110	57.0	26.9	1	85	14	19.6	53.7	110		3											
D71111	56.5	25.6	1	87	12	19.9	56.6	110		3											
D71117	56.0	26.3	2	85	13	19.9	56.6	105		3											
D7411	58.5	28.7	3	88	9	19.1	58.5	115		4											

A/ See Table 1 for explanation of abbreviations and symbols.





TABLE 53

DURUM QUALITY EVALUATION<sup>A/</sup>

1974 CROP

STATE=SOUTH_DAKOTA STATION=SELBY NJRSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SFEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	_LG_	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	_SD_
CROSBY	51.5	20.6	1	50	49	21.8	53.7		115				4	PB	PB		MV							YS	
LEEDS	55.5	23.6	1	74	25	20.6	54.9		115				4											YS	
WARD	52.5	22.8	1	58	41	21.5	53.7		105				3								MN			YS	
WELLS	52.0	22.0	0	44	56	21.4	52.7		110				1				MJ							YS	
BOYNO	53.0	22.6	1	55	44	20.9	56.0		110				4				PB							YS	
MACOUN	52.0	21.4	1	62	37	20.3	52.0		115				4	PB	PB										
MINDUM	53.5	23.6	1	54	45	20.3	54.9		95				1				P3				MJ				
ROLETTE	54.0	25.4	1	68	31	21.8	54.3		110				4												
RUGBY	53.0	23.9	1	61	38	20.7	53.7		105				3								MN				
WAKCUMA	52.0	22.8	1	46	53	21.3	52.6		105				1				MJ				MN				
D6962	53.5	23.8	0	47	53	21.1	54.9		125				1				MJ								
D7C25	52.0	25.1	0	55	45	21.8	56.0		105				3				PB				MV				
D7047	54.0	26.7	1	53	46	20.7	56.0		120				4				P3								
D7057	52.5	23.5	0	45	55	21.1	54.9		115				1				MJ								
D70101	52.0	21.2	0	49	51	21.9	56.0		105				3	PB	PB		MJ				MN				
D7150	53.5	22.2	1	65	34	21.6	56.0		105				3								MN				
D7171	50.5	21.7	0	51	49	21.9	55.4		105				3	MV	PB		MV				MN				
D7176	53.5	21.9	0	53	47	20.5	54.9		105				3				MV				MN				
D71110	52.0	23.3	0	61	39	20.5	52.6		120				4												
D71111	51.0	21.3	0	51	49	22.2	52.7		110				4	PB	PB		MV								
D71117	52.5	26.0	1	67	32	21.4	54.3		115				4												
D7411	53.0	22.7	0	54	46	21.6	54.7		110				4				PB								

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.



STATE=WASHINGTON STATION=ROYAL_SLOPE NJRSERY=UNIFORM																									
VARIETY	_TW_	_KW_	LG	MD	SM	_PR_	SEEX	SP	DU	_VI_	_FR_	_RE_	VAL	_TW_	_KW_	LG	_SM_	_PR_	_MG_	_SP_	_DU_	_VI_	_FR_	_RE_	SD
CROSBY LEFDS WARD WELLS BOTNO	64.5	42.0	68	30	2	12.5	54.0		115				4											YS	
	65.4	40.8	66	32	1	13.4	52.5		105				3								PB			YS	
	64.6	40.8	65	34	1	12.8	51.5		110				4										YS		
	64.5	32.9	48	50	2	12.7	52.0		105				3		MJ	MN					PB		YS		
	65.1	43.3	69	30	1	12.4	53.0		110				4											YS	
HERCULES MINDUM ROLETTE RUGBY WAKOOMA	64.5	45.5	73	26	1	12.8	53.5		105				3								PB				
	65.0	41.8	73	26	1	12.7	54.0		100				3								MN				
	64.0	41.7	68	30	2	13.1	55.5		100				3								MN				
	64.6	41.5	65	34	1	12.7	53.0		110				4												
	63.3	39.5	58	41	1	13.7	51.5		105				3								PB				
WANDELL WASCANA D6962 D6973 D7C19	63.5	31.9	35	58	7	11.8	50.5		105				1		MJ	MJ	MV		PB		PB				
	63.0	47.4	76	23	1	13.7	51.5		115				4		PB										
	65.0	46.5	75	24	1	12.9	54.0		110				4												
	65.8	47.1	82	18	0	12.3	52.5		105				3								PB				
	66.1	42.6	60	39	1	11.6	53.0		105				3								PB				
D7025 D7047 D7057 D7067 D7075	64.2	42.6	67	32	1	11.5	54.5		105				3								PB				
	65.0	41.0	61	37	2	11.9	54.0		115				4												
	64.0	38.2	43	55	2	10.9	53.0		110				3		PB	MJ									
	64.9	45.0	78	22	0	13.0	53.5		115				4												
	64.5	43.1	75	24	1	12.9	52.5		110				4												
D7099 D70101 D71110 D71117 RL3607/NT182	64.5	39.2	54	44	2	11.3	49.5		100				2			PB			MN		MN				
	65.2	47.6	80	20	0	12.1	55.5		100				3								MN				
	64.4	45.2	71	28	1	12.9	50.0		105				3								PB				
	64.8	43.9	78	22	0	12.9	54.0		105				3								PB				
	65.2	47.1	82	18	0	12.9	52.5		115				4								PB				

<sup>A/</sup> See Table 1 for explanation of abbreviations and symbols.





